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NEW YORK, FEBRUARY 10, 1883.

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THE editor of the RAILROAD JOURNAL is pleased to receive information of railroad enterprises already entered upon or projected, items regarding the business done on the roads, such as relate to persons employed in the railroads and kindred interests; in short, about all matter which the readers of such a paper as this are gratified to find within its columns.

INCORPORATION.

THE Detroit, Indiana and St. Louis Railroad has been incorporated at Indianapolis, with a capital of \$2,000,000.

THE Chicago, Springfield and St. Louis Railroad, to run from Springfield, Illinois, to St. Louis, has been incorporated, which will give the Illinois Central Railroad Co. the shortest line from Chicago to St. Louis.

A CERTIFICATE of incorporation was filed on the 30th ult. of the Depot Street Railroad Company of Dayton, Ohio; capital, \$50,000. Also, articles of agreement of lease of rolling-stock between the Boston Car Trust Association and the Connonton Valley Railroad Company.

THE New Castle and Northern Railroad Company, capital \$250,000, was chartered at Harrisburg, Penn., on the 1st inst. James A. Negley, of Pittsburg, is president. The road is to run from near Lawrence Junction, Lawrence county, through Newcastle to Sharpsburg, Mercer county, a distance of twenty-five miles.

THE Western Union Telegraph Company, composed of Aaron Everest, B. P. Waggoner, Frank L. Everest, W. T. Fleming and W. W. Hetherington, of Atchison, filed articles of incorporation with the Secretary of State of Kansas on the 31st ult. Capital stock \$1,000,000. The above persons are directors for the first year.

ARTICLES of incorporation of the Helena Street Railroad Company were filed in the office of the Secretary of State of Arkansas on the 31st ult. The authorized capital is \$8,000, all paid up stock, divided into 320 shares of \$25 each. The officers are C. L. Moore president, W. R. Burke vice-president. Mr. Moore is of the house of W. E. & C. L. Moore.

ARTICLES of association have been filed in the office of the Secretary of State for the formation of a belt railroad at Terre Haute, Ind. The capital stock is \$100,000. Joseph Collett, C. Fairbanks, R. G. Kervey, R. G. Jenkes, I. B. Johns, Paul C. Davis and A. O. Johns are the directors. The corporation will be known as

the Manufacturers' Belt Railroad Company. The length of the road will be about four miles.

A CHARTER has been taken out for the Buffalo, Pittsburgh and Western Coal and Iron Company, which proposes to manufacture iron and steel, and to mine coal, iron ore and other minerals for its own consumption and sale in most of the counties of western Pennsylvania, in which valuable mineral lands have been secured. The headquarters of the company will be in Pittsburgh. The names appearing in the charter are J. D. Clark, W. A. Schmidt, William Bunton, John Armstrong, West McMurray and John E. H. Kelly, and the capital stock is fixed at \$20,000. The men back of the incorporators are said to be the officers and heavy stockholders in the Buffalo, Pittsburg and Western Railroad Co., whose aim in this undertaking is to build up freight business for their road.

CONSTRUCTION.

STREET cars commenced running in Chester, Penn., on the 30th ult.

The section of the Mexican National Railway from Toluca to Maravatio was opened on the 6th inst.

THE people of Norristown, Penn., have in contemplation the construction of a street railroad in that place.

THE first through passenger train from New Orleans to San Francisco started from the former city on the 30th ult. The time between the two termini will be about 139 hours, or five days and nineteen hours.

ARRANGEMENTS are being perfected to finish the railroad from Rome, (Ga.) to Cedartown. This road was graded several years ago. It will connect with the East and West Railroad, now under construction to Birmingham.

THE Pittsburgh Chronicle says it is very probable a street car line will be established between the East End and Wilkinsburg in the spring. The company has been organized and will shortly ask Councils for the right of way along Penn avenue.

THE Woodstown and Swedesboro Railroad was opened for passenger, express and freight business on February 1. It extends from Swedesboro, N. J., the terminus of the Swedesboro branch of the West Jersey Railroad, in a southerly direction, passing through Woods-

town and connecting with the Salem branch of the West Jersey Railroad at Riddleton. The road is 11.2 miles long.

THE Coshocton and Straitsville division of the Connonton Valley railroad has been opened for traffic to Buena Vista, Coshocton county. Two trains will be run each way daily between Canton and Buena Vista, and as soon as a large bridge near Coshocton is completed the trains will run to that city.

The map of the proposed route of the Staten Island Rapid Transit Railroad has been filed in the Richmond County Clerk's office. The route begins at Peleter's Hotel, New Dorp, and runs near the Boulevard to Clinton and along the Shore road through Stapleton and Tompkinsville to New Brighton.

ENGINEERS of the Mexican Government have inspected the Mexican National Railway from Santa Caterina to Garcia, twenty-two kilometres, and accepted the same. F. A. Lister has assumed the duties of general superintendent, and E. A. Handy has taken charge of the construction department.

WORK on the Annapolis Short Line Railroad is to be commenced early this season. Ground for the depot at Annapolis was procured a few days ago. Mayor Martin, of Annapolis, is president of the company. The line, which will cross the Severn at Annapolis, is to enter Baltimore at the Scott and Cross streets terminus.

THE Montreal City Passenger Railway Company have arranged to run a line of road up Windsor street to St. Catharine street. This line will enable passengers to get on at Bonaventure street station and be taken anywhere along the present system. Should this be done the Post-office fares will commence and end there.

THE Atlantic and Pacific Railroad Company, which is laying track at the rate of 2½ miles per day, expects to reach the Colorado River before the 1st of April. The Southern Pacific Railroad Company expect to reach there within a few weeks. Thus within two months another transcontinental line of railroad will be open for travel.

ACCORDING to the official statement of the Mexican Department of Public Works there had been built in Mexico up to the close of 1882 about 2,305 miles of railway. The length o

track now operated is given as follows: Mexican Railroad (Vera Cruz), 356 miles; Mexican National, 432; Mexican Central, 596; Sonora Road, 313; Interoceanic Road, 186; Yucatan Railways, 60; Tehuantepec Road, 16.

THE New Orleans connection of the Southern Pacific Railroad, the last spike in which was recently driven, leaves the main line of the Southern Pacific Railroad at Deming, N. M., and runs to El Paso, Tex., where it crosses the Rio Grande. It extends thence by a circuitous route across Texas to San Antonio, connecting at that point with the Galveston, Harrisburg and San Antonio Railroad, and running thence, to a connection with the former Texas and New Orleans Railroad, and terminates at New Orleans.

It is announced that the arrangements which have so long been under way, looking toward extending the Lamoille Valley Extension from Swanton, Vermont, to Rouse's Point, have been completed and the necessary means for its building secured. At Rouse's Point a connection will be made with the Ogdensburg and Lake Champlain Railroad, forming a through line for all rail passenger and freight business to the Canadas, northern New England and the East. This road will probably be operated by the St. Johnsbury and Lake Champlain Railroad or the Ogdensburg and Lake Champlain, and a bridge charge will be made sufficient to pay all expense of operating and maintaining the same. The opening of this route will make a shorter rail connection for the Vanderbilt lines than any now in force to the points mentioned. It is expected that the new connection will be completed next August.

ORGANIZATION.

THE directors of the Danville, Hazleton and Wilkesbarre Railroad Company for the year 1883 are: M. W. Kase, Jonathan M. Roberts, Peter C. Thompson, S. P. Kase, Charles Hentz, L. J. Abbott, Samuel Wheeler and William H. Glading. President, M. W. Kase.

AT the recent annual meeting in Portland, Oregon, of the Oregon Short Line Railroad Company the following persons were elected directors: S. H. H. Clark, Thomas L. Kimball, Andrew J. Poppleton, D. P. Thompson, B. J. Pengra, M. S. Burrell and Ellis G. Hughes.

THE directors of the Fall River Railroad Company, recently elected, are: Charles F. Choate, H. A. Blood, George Marston, Fred. L. Ames, William Rotch, Morgan Rotch, J. S. Brayton, N. W. Turner and J. A. Beauvais; President, C. F. Choate; Treasurer, J. M. Washburn; Clerk, Wm. Rotch.

AT a meeting of directors of the Montreal, Portland and Boston Railway Company, held in Montreal on the 1st inst., the following executive officers of the Company were re-elected for the current year: S. T. Willett president, A. B. Chaffee vice-president, M. S. Lonergan secretary and treasurer.

THE George's Creek Coal and Iron Company have elected the following directors: A. H. Stump, Thomas Whitridge, Austin Jenkins, Thomas W. Levering, Francis White, J. J. Alexander, Samuel P. Townsend, Thomas

Deford, Richard D. Fisher. The office of the company is in Baltimore, Md.

AT a meeting of the directors of the Denver and Rio Grande Railroad Company on the 30th ult., William L. Scott, A. J. Cassatt, Peter Geddes, and L. H. Meyer were admitted as directors in place H. A. Risley, J. W. Gilluly, L. K. Bass and John E. Lundstrom, resigned. L. H. Meyer was elected first vice-president.

THE stockholders of the Lehigh and Eastern Railroad Company have elected the following board of directors: S. P. Kase, Francis W. Hughs, John C. Babcock, William H. Sterling, Samuel Wheeler, John H. Case, Homer Ramsdale, Francis Deweese, M. W. Kase, Leonard Abbott, Jeremiah Savage, William H. Glading, and John B. Champion. President, S. P. Kase.

AT the annual meeting of the stockholders of the Belvidere Delaware Railroad Company, held in Philadelphia on the 5th inst., the following board of directors was elected: Strickland Kneass, H. H. Houston, Henry D. Welsh, Edmund Smith, John P. Wetherill, G. Morris Dorrance, Lewis Perrine, Hugh B. Ely and Charles Bartles. Strickland Kneass president, Hugh B. Ely secretary and treasurer.

AT the annual meeting of the stockholders of the Fitchburg Railroad Company, held in Boston on the 30th ult., the following board of directors was chosen: Wm. B. Stearns, Seth Bemis, Robert Codman, Rodney Wallace, Franklin N. Poor, Charles T. Crocker, Charles A. Welch. The directors subsequently organized by the choice of William B. Stearns president, M. D. Benson treasurer and T. Whittemore clerk.

AT the annual meeting of the Providence and Worcester Railroad Co., held at Providence, R. I., on the 5th inst., [the following were elected directors: George A. Leete, Gideon L. Spencer, Elijah B. Stoddard, Lyman A. Cook, Estus Lamb, Moses B. I. Goddard, Amos D. Lockwood, Frederick Grinnell, Joseph E. Davis, Oscar J. Rathbun, David K. Phillips, Josiah Lasell, Jonas G. Clark, Benjamin F. Thurston and Charles E. Whitin.

THE directors of the Framingham and Lowell Railroad Company, recently elected, are: S. N. Aldrich of Marlboro', James W. Clark of Framingham, H. A. Blood of Fitchburg, Jacob Nichols of Lowell, D. E. Harding of Mansfield, John Fletcher of Acton, Daniel Wetherbee of Acton, Frank A. Day of Boston, John H. Buttrick of Lowell, William O. Brown of Fitchburg, Charles F. Choate of Boston, S. B. Rogers of Sudbury, N. Thayer, Jr., of Lancaster.

THE first meeting of the New York and Boston Inland Railroad Company in Massachusetts was held in Boston on the 3d inst., at which Samuel E. Hale, of Keene, N. H., presided. The certificate of incorporation issued by the State of Massachusetts was accepted, and the company organized by the election of a board of directors, as follows: J. R. Bodwell, of Hallowell, Me.; Charles Burleigh, of Fitchburg; William Rotch, of Boston; Moody Merrill, of Boston; George Coon, of Boston; John H. Buttrick, of Lowell; Samuel L. Ham, of Peabody, Mass.; William H. Draper, of Milford, Mass.; H. E. Morgan, of Milford, Mass.; George W.

Johnson, of Milford, Mass.; Charles T. Sabin, of Montpelier, Vt.; Moses Webster, of Maine; H. A. Blood, of Fitchburg, Mass. This company is already organized in the States of Connecticut and New York.

AT the annual meeting of the New York, Chicago and St. Louis Railroad Company, held in Cleveland, Ohio, on the 30th ult., the following directors were elected: Wm. H. Vanderbilt, Cornelius Vanderbilt, Augustus Schell, J. H. Devereaux, Stevenson Burke, D. W. Caldwell, James Tillinghast, H. McK. Twombly, W. C. Whitney, Frederick W. Vanderbilt, Anson Stager, J. H. Wade and Charles Hicox. Wm. H. Vanderbilt was elected president, D. W. Caldwell general manager, and F. W. Vanderbilt secretary-treasurer. The president says that the road will pay its fixed charges, and will be maintained as a separate organization. In due time it will enter the trunk-line pool. Through passenger trains will not be put on regularly until the road is thoroughly ballasted and terminal facilities arranged at both ends.

Employment of Mules in Coal Mines.

UPWARDS of 1,700 mules employed by the Philadelphia and Reading Railroad and Coal and Iron Companies in connection with mining operations toil under ground daily. At many of the mines the mules do not see the light of day for a year at a time, and very often a mule spends ten years of his life under ground. The effect of daylight upon mules that have been so long in darkness is blinding. In many instances this blindness is permanent, the shock of sudden light being too great for the eyes; but it is the general rule that the mule staggers around in blindness for a few days, always, however, finding his way to the feeding bin, and taking true aim with his heels. At the end of the week eyesight returns, he brays with all the vigor of lung for which his kind is celebrated, elevating his tail as an accompaniment.

There are in round numbers 2,300 mules employed in all capacities by these companies. Many of them are taken up and down on the cage at the mines daily. In an economic point of view, they are said to be 33 per cent cheaper than horses, but that this is offset by the risk run in employing them. No wagon boy has been thoroughly initiated until he has felt the weight of a mule's heel.

In the mining region, where disputes of almost all kinds are settled by fisticuffs, the mule plays an important part in the miner's training for battle. He approaches the mule, which seems to be sleeping, and gives him a few taps on the rump with the bare knuckles as a reminder that he is wanted to take part in a sparing match. The mule responds, his blows are parried, and the sturdy miner gets in one or two from the shoulder which knock the animal out of time, the latter retiring with backed ears and looking deeply humiliated. A number of gentlemen prominently identified with the anthracite coal trade, who have been practical miners, relate this as an actual fact, and state further that a miner has so little respect for a mule that every time he has a row with his wife and she has the best of him he gets even by licking a mule, as that is about the nearest thing to a mad woman that he can get at.

Statement of the Public Debt of the United States, February 1, 1883.

DEBT BEARING INTEREST.		
	<i>Amount Outstanding.</i>	<i>Accrued Interest.</i>
5 per cent funded loan of 1881, continued at 3½ per cent.....	\$81,328,750 00	\$711,626 56
3 per cent loan of July 12, 1882.....	291,444,350 00	2,185,834 62
4½ per cent funded loan of 1891.....	250,000,000 00	1,875,000 00
4 per cent funded loan of 1907.....	738,967,800 00	2,463,226 00
4 per cent refunding certificates.....	389,150 00	1,297 17
3 per cent navy pension fund.....	14,000,000 00	35,000 00
Aggregate of debt bearing interest.....	\$1,376,130,050 00	\$7,271,982 35
Interest due and unpaid.....		2,433,368 57
DEBT ON WHICH INTEREST HAS CEASED SINCE MATURITY.		
	<i>Amount Outstanding.</i>	<i>Interest due and unpaid.</i>
4 to 6 per cent. old debt, 1837.....	\$57,665 00	\$64,174 81
5 per cent. Mexican indemnity stock, 1846-'52.....	1,104 91	85 74
6 per cent. bonds, 1847-'67.....	1,250 00	22 00
6 per cent. bounty land scrip, 1847-'49.....	3,275 00	213 06
5 per cent. Texas indemnity stock, 1850-'64.....	20,000 00	2,945 00
5 per cent. bonds, of 1858-'74.....	7,000 00	875 00
5 per cent. bonds, of 1860-'71.....	10,000 00	600 00
6 per cent. 5-20 bonds, 1862, called.....	361,550 00	5,297 15
6 per cent. 5-20 bonds, June 1864, called.....	50,400 00	994 40
6 per cent. 5-20 bonds, 1865, called.....	70,450 00	18,335 25
5 per cent. 10-40 bonds, 1864, called.....	280,100 00	41,926 40
6 per cent. Consol. bonds, 1865, called.....	358,200 00	11,917 38
6 per cent. Consol. bonds, 1867, called.....	789,300 00	108,676 65
6 per cent. Consol. bonds, 1868, called.....	245,150 00	20,413 11
6 per cent. loan, Feb. 8, 1861, matured Dec. 31, 1880.....	75,000 00	4,830 00
5 per cent. funded loan 1881, called.....	547,200 00	869 54
5 per cent funded loan 1881, called, continued at 3½ p.c. Oregon War Debt, March 2, 1861, matured July 1, 1881.....	7,675,900 00	46,315 18
6 per cent loan of July 17 and Aug. 5, 1861, matured June 30, 1881.....	7,800 00	1,558 50
6 per cent loan of July 17 and Aug. 5, 1861, continued at 3½ per cent, called.....	474,650 00	7,813 50
6 per cent loan of March 3, 1863, matured June 30, 1881.....	1,499,700 00	18,079 04
6 per cent loan of March 3, 1863, continued at 3½ per cent, called.....	149,600 00	4,011 13
1-10 to 6 per cent. Treasury notes, prior to 1846.....	1,396,550 00	15,273 55
1-10 to 6 per cent. Treasury notes, 1846.....	82,525 35	2,668 06
6 per ct. Treasury notes, 1847.....	5,900 00	200 60
6 per ct. Treasury notes, 1847.....	950 00	57 00
3 to 6 per cent. Treasury notes, 1857.....	1,700 00	99 00
6 per ct. Treasury notes, 1861.....	3,000 00	304 50
7-10 per cent. 3 years' Treasury notes, 1861.....	16,300 00	1,104 43
5 per cent. 1 year notes, 1863.....	41,115 00	2,067 85
5 per cent. 2 year notes, 1863.....	32,300 00	1,587 30
6 per ct. compound interest notes, 1863-'64.....	216,770 00	44,321 01
7-10 per cent. 3 years' Treasury notes, 1864-'65.....	138,350 00	20,331 38
6 per cent. certificates of indebtedness, 1862-'63.....	4,000 00	253 48
4 to 6 per cent. temporary loan, 1864.....	2,960 00	244 19
3 per cent. certificates, called.....	5,000 00	394 31
Aggregate of debt on which interest has ceased since maturity.....	\$14,632,715 26	\$448,919 57
DEBT BEARING NO INTEREST.		
Demand notes, 1861-'62.....	\$59,250 00	
Legal tender notes, 1862-'63.....	346,081,016 00	
Certificates of Deposit.....	12,490,000 00	
Gold certificates, 1862 and 1882.....	72,776,940 00	
Silver certificates, 1878.....	72,745,470 00	
Unclaimed interest.....		\$4,619 96
Fractional currency, 1862, 1863 and 1864 \$15,394,027 17		
Less amount estimated as lost or destroyed, act of June, 1879.....	8,375,934 00	
Aggregate of debt bearing no interest.....	\$511,770,769 17	\$4,619 96

RECAPITULATION.

	<i>Amount Outstanding.</i>	<i>Interest.</i>
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Debt bearing interest in coin, viz:	
Bonds at 5 per cent, continued at 3½ per cent.	\$81,328,750 00
Bonds at 4½ per cent.....	250,000,000 00
Bonds at 4 per cent.....	738,967,800 00
Bonds at 3 per cent.....	291,444,350 00
Refunding certificates.....	389,150 00
Navy pension fund, 3 p.c.	14,000,000 00

	\$1,376,130,050 00	\$9,705,350 92
Debt on which interest has ceased since maturity.	14,632,715 26	448,919 50

Debt bearing no int., viz:	
Old demand and legal-tender notes.....	\$346,740,266 00
Certificates of deposit.....	12,490,000 00
Gold & silver certificates.....	145,522,410 00
Fractional currency.....	7,018,093 17

	\$511,770,769 17
Unclaimed interest.....	4,619 96

	\$1,902,533,534 43	\$10,158,890 38
Total debt, principal and interest to date, including interest due and unpaid....	\$1,912,692,424 81	

AMOUNT IN TREASURY.

Interest due and unpaid.....	\$2,433,368 57
Debt on which interest has ceased.....	14,632,715 26
Interest thereon.....	448,919 50
Gold and silver certificates.....	145,522,410 00
U. S. notes held for redemption of certificates of deposit.....	12,490,000 00
Cash balance available Jan. 1, 1883.....	143,258,218 51

	\$318,785,631 84
Debt, less am't in Treas'y Feb. 1, 1883....	\$1,593,906,792 97

Debt, less am't in Treasury Jan. 1, 1883....	1,607,543,676 84
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Decrease of debt during the month.....	\$13,636,883 87
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Decrease of debt since June 30, 1882....	\$95,007,667 75
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BONDS ISSUED TO THE PACIFIC RAILROAD COMPANIES, INTEREST PAYABLE IN LAWFUL MONEY.	
	<i>Accrued Interest not paid.</i>
Central Pacific bonds, 1862-64 \$25,885,120 00	\$129,423 60
Kansas Pacific bonds, 1862-64 6,303,000 00	31,515 00
Union Pacific bonds, 1862-64 27,236,512 00	136,182 56
Cent. Branch Union Pacific bonds, 1862-64.....	1,600,000 00
West'n Pacific Bonds, 1862-64 1,970,560 00	9,582 80
Sioux City & Pacific bonds, 1862-64.....	1,628,320 00
	8,141 60
Totals	\$64,623,512 00

	\$323,117 56
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Interest paid by the United States, \$57,283,388.10; interest repaid by transportation of mails, &c., \$16,317.57-87; interest repaid by cash payments: 5 per cent net earnings, \$655,198.87; balance of interest paid by United States, \$40,310,610.15.	
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The foregoing is a correct statement of the public debt, as appears from the books and Treasurer's returns in the Department at the close of business, January 31, 1883.	
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**CHARLES J. FOLGER,
Secretary of the Treasury.****Forging a Rudder.**

REFERRING to the forging of a new rudder for the steamer City of Berlin, to take the place of one that was carried away in a recent storm, ex-Alderman James Johnston, the superintendent of the Paterson Iron Company's Works is reported to have said:

"This is the biggest job of the kind we ever had, and there is only one other establishment in this country that would be anxious to get it to do. The shaft is forty feet long, the blade is twenty-five feet long, and the shape of the whole is so irregular that we have to put on counter weights every time it is handled, in order to run it over under the hammer. It will weigh about nine tons. The blade is made of sheet-iron plates, bolted on each side of the frame. The frame is made of iron, about eight inches square. The open space between the two plates forming the blade is sometimes filled in with resin. This, when melted and poured in, forms the most durable and solid filling. Some, however, use plaster of Paris. Others fill in the space with wood. Finally, others

perforate the plates and let water run in. This is probably as good as anything. The frame gives the rudder the desired strength. The plates are only to give a surface. A rudder six feet broad will steer a steamship 400 feet long."

While the reporter was listening, the building was lighted with the brilliant glow of a red hot bow of iron about fifteen feet long and eight inches square, just taken from the furnace. It was, in fact, a part of the outer rim of the curving rudder. In the meantime a corresponding piece projecting from the rudder shaft, which had likewise been heated, was brought from a furnace to be welded on. The two ends that were brought together were like two letter Vs pointing toward each other, thus: → ←. Then several men with great tongs took from the fire two small pieces also shaped like letter Vs, made to fit on the space between the two ends to be welded. These smaller pieces were held in place until a blow or two of the great hammer, giving a 4,000 pound stroke, caused the half melted masses to adhere. Next the whole mass was twisted and turned, and the blows rained faster and harder, until in a few minutes the weld was completed. A similar operation welded the other end of the bow to the post.

"A single false blow," said the superintendent, "might spoil the whole thing. A bit of dirt in it might make a flaw that would cost us thousands of dollars for damages. It takes a good mechanic to boss such a job, and we have to pay him good wages."

"How much do you pay him?"

"We pay that boss hammerman \$12 a day. He is the most important man in the shop."

Cost of the Channel Tunnel.

THE probable cost of a Channel tunnel has always been a very obscure question, and Sir Edward Watkin has hitherto been very silent about it; but recently, according to the Pall Mall Gazette, he has felt himself in a position to give some figures on this particular point. He is making a tunnel, somewhere or other, through one of the hardest stratified rocks he knew. This cost £38 a yard, and that means roughly £65,000 a mile. The Channel tunnel would be about twenty-four miles. Instead, however, of taking the cost at £65,000 a mile let them assume that it would be £100,000 a mile, and that would represent a cost of £2,400,000 for the tunnel under the sea. That is his estimate of the cost of the actual tunnel. Next, he believed the estimate of £350,000 for the tunnel to connect the Chatham and Dover, and the Southeastern railways would not be exceeded. The entire cost of the work, therefore, came to only £3,000,000. With an original outlay of this modest kind Sir Edward was no doubt justified in describing the project as likely to be one of the most profitable ever undertaken—if profitableness were the only thing to be considered. But then in this modest estimate nothing is included for the cost of fortifications at the English end of the tunnel, every penny of which should fall upon those who have made them necessary.

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We invite railroad officers to send us notice of elections, transfers, appointments, resignations, etc.; and all our readers would oblige us by furnishing for our columns any items of personal information, which may come to their knowledge, and are adapted to this department. We aim to record all new railway enterprises in the United States and Canada, and to note the progress of construction on all new roads and extensions; and we request all concerned in railway building to give us early information regarding the above, that our reports may be as complete as possible.

Subscribers are requested to report to our office any irregularity in receiving the JOURNAL.

Contributed articles relating to Railroad matters generally, Mining interests, Banking and Financial items, Agricultural development, and Manufacturing news, by those who are familiar with these subjects, are especially desired.

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COMPETITIVE LINE SCHEDULES.

IT is rumored that the Vanderbilt fast train between New York and Chicago is to be extended west over the Northwestern line to Omaha, and that from Omaha to San Francisco the Union and Central Pacific Companies will put on an extra train so as to reduce the time between New York and San Francisco to four and a half days. If there be any truth in this (which is doubtful) it is simply an attempt on the part of the Vanderbilt and Dillon lines to procure more than their share of pooled business; and is the same kind of cutting as the Pennsylvania began in putting on its "Limited Express" between New York and Chicago. The Trunk Lines had combined to maintain passenger rates, but the time was left unrestricted. The Pennsylvania, having the shorter line, put on a train to make the entire 923 miles within twenty-eight hours; that is to say, instead of consuming two nights and a day on the journey it was to be done with one day and one night. Of course the New York Central and Hudson River had to follow this lead and put on a similar fast train.

There is a near limit to this kind of competition, and it is not difficult to foresee that the time as well as the fares will have to be fixed by agreement of interested competing lines. It is too risky to the public, too tempting to the railroad officers, and too expensive to the tracks and rolling-stock to go without a break. The travel of business men between Chicago and the northwest is sufficient to justify two or possibly four fast trains a day; and a saving of a night on the cars is an object to some travelers, just as a saving of a day for business is of importance to others. The difference between one night in a sleeper and two nights, is much greater than the difference between four nights and five; or five nights and six.

The case is very different with Pacific travel. There are now (exclusive of the Isthmus steamers) two through lines to California, and a third (the Atlantic and Pacific) is to be opened within a few weeks. The route via Salt Lake is somewhat the shortest to and from Chicago and St. Louis; but if the Northern line puts on a train to shorten the time, the Southern will naturally do the same. As things are now the latter takes about twelve hours longer time from Kansas City; but with the opening of the thirty-fifth parallel line, the distance being about the same, the time will doubtless be made so.

This brings up the question as to how fast through trains should be run. It is undoubtedly right that where there is load enough of through

passengers they should be taken with as few stops for local or "way" traffic as is consistent with safety and economy. The saving in time should be made, however, rather in avoiding delays than in high speed. There is a growing tendency in engine-men to make fast average speed by whirling down the descending grades at high velocities rather than by uniform and steady gait. This is reprehensible. The governing element in timing trains should be, not the power of the engine, but the condition of the road-bed; and the attention of superintendents to this point is demanded.

But there are only a million of people, big and little, in California and Oregon; and the journey is, like a sea voyage, a thing of preparation. Experience shows that the journey at twenty-two miles average per hour west of the Mississippi River is less fatiguing than is the average of near thirty-five miles on this side. This is true of all our swift trains that they tire the traveler appreciably. To say nothing of the risk and injury to the eyes, the maximum of comfortable travel on a good track should not be allowed to average much over forty miles per hour.

The Danger from Heart Disease in Railroad Train and Signal Men.

BY S. S. HERRICK.

THE following was recently reprinted in the New Orleans *Picayune*, from the New York *Sun*. Its lesson appears to me to apply with even stronger force on land than on water, on account of the much higher rate of speed attained by railroad trains:

"The records of the United States Marine Hospital show that up to November 1 there were four cases during the year 1882 of pilots dying of disease of the heart while at the helm. To these must be added the case of Capt. W. B. Allen, who dropped dead on December 4, while bringing the steamer *Eolus* into Newport. He was one of the best known pilots on the Sound, and commanded at different times several large passenger steamers. Pilot Stephen Jones also fell dead at the helm of the pilot boat *Columbia* only a few days ago, when cruising outside of Sandy Hook. Fortunately, in all these cases, although there was more or less confusion, no disaster resulted.

"Surgeon General Hamilton referred to the danger in this respect in his evidence before the Congressional Committee on Shipping. The dangers arising from the loss of control of a crowded ferryboat or passenger steamer in the crowded waters in the vicinity of New York cannot be over-estimated, and the risk is daily run, with only one man at the helm, by scores of craft in the excursion season. It is not long since that two pilots of the Union Ferry Company died at the wheel of heart disease, leaving their ferryboats temporarily without control. No accident occurred, but the result may be imagined had they, while in a helpless condition and jammed with passengers, been run into by one of the great Sound steamers, for instance. Warned by the second death the Union Ferry Company have since then taken the precaution of having two men in the pilot-house. The second man is, however, merely a deck hand, who goes up from the deck after the ferryboat has left the slip.

"An old pilot said his attention had been called to several cases of heart disease among members of his craft late. He did not recollect more than two or three cases

in the old times, twenty to thirty years ago. He knew of no reason why there should be an increase of the disease. The work of a pilot was hard and required temperate habits, and perhaps the increase in cases of heart disease was not proportionately greater than the increase in the number of pilots. If a steamer took a pilot off Sandy Hook and he died of heart disease, there were so many pilot boats that there would be little difficulty in getting another pilot. In a stormy night or in foggy weather, however, the veteran admitted that the danger would be great. 'There are scores of excursion and passenger steamers, tugs with barges, and all kinds of craft carrying passengers in the summer season,' he said, 'with only one man at the helm, and a law ought to be passed to prevent it. The large Sound and North River boats are forced to have more than one man at the wheel, as are the ocean steamers. Many of the ferry-boats in and around New York never have more than one at the helm, and this rule may be considered general so far as tugs are concerned.'

"An army surgeon said that it did not follow that because a man was thrown suddenly into an exciting scene he would die of heart disease if he was subject to it. He had known men who had gone through battles who had afterward died of heart disease in their beds. A pilot subject to heart disease might die in a sudden and exciting emergency, or he might create such an emergency by his death."

The question naturally arises, Why have we no similar accounts of heart failure among railroad men? The correct answer probably is, that railroad traffic is not subject to government supervision, as is the case upon the water-craft carrying the American flag. Railroad accidents are made family secrets, as far as possible, and this practice will continue until government investigation is provided by law. Investigation under legal authority would either accompany or briefly precede control, and this implies physical examination of those holding positions which involve human life, and rejection of all who fall below the standard.

It is not probable that the old plan of trusting to luck, or relying on divine Providence, according to one's religious bent, will much longer be tolerated by civilized communities; and the alternative will be legislative control or corporate regulations. If railroad companies prefer to keep the matter in their own hands, they must provide some system of prevention satisfactory to the most intelligent minds. It is greatly to the credit of the management of a few of the largest railroad corporations of this country, that they have already put in operation a plan for eliminating the most serious visual defects from certain classes of their employés. If their example should rapidly be followed, and a more extended system of physical examinations be practiced by their own medical officers, it is quite probable that railroad companies would not be interfered with in this matter.

Again, had the federal government provided a physical examination of the vital organs, instead of restricting control to the distinction of colors, the accidents related in the above article would never have happened. Their occurrence shows the necessity of control from some quarter, and upon water-craft this must of necessity proceed from the government. There can be no question of the right of government to impose suitable regulations for the protection of life and health, and the more communities become enlightened, the more the necessity is felt by the intelligent portion for the exercise of restraint upon the personal lib-

erty of their improvident fellows, where the general welfare is concerned. Were all equally intelligent, there would be no occasion for such control; and the same is the case with the most powerful, when they have the intelligence and fairness to be a law unto themselves.

To forestall preventable ills is one of the grandest achievements of organized power and a fair index of civilization. Every one must either lead or follow. It is more honorable to lead than to follow: what shall be said of those who wait to be driven, and then hold back?

Non-liability of Holders of Hypothecated Stock.

An interesting decision involving the question of the liability of the holders of hypothecated railroad stock for the debts of the insolvent railroad company was rendered in the United States Supreme Court on the 29th ult., in the case of Edward Burgess, plaintiff in error, against Jesse Seligman, et al., executors, in error to the Circuit Court of the United States for the Eastern District of Missouri. This was an action brought by the plaintiff in error against J. & W. Seligman & Co. as stockholders of the Memphis, Carthage and Northwestern Railroad Company under a statute of the State of Missouri, to recover a debt due him by the company. The plaintiff in his petition alleges that on November 5, 1874, judgment was rendered in his favor against the corporation by the District Court of Cherokee County, Kansas, for \$73,661, which remains unsatisfied; that in December, 1874, the corporation was dissolved; and that the defendants at the date of the dissolution and of the judgment were, and still are, stockholders of the corporation to the amount of \$6,000,000, on which there is due and unpaid one million dollars, and he demands judgment for his debt. Joseph Seligman, the principal defendant, answered, denying that the defendants were ever stockholders or subscribers to the stock of the corporation, and setting forth certain facts and circumstances (stated in the findings) under which the stock alleged to be theirs was merely deposited in their hands by the corporation, in trust for a temporary purpose by way of collateral security, to be returned when the purpose was accomplished. The cause was tried by the Court, and judgment rendered for the defendants on certain findings of fact, and the question presented here is whether the facts as found are sufficient to support the judgment. This Court holds that they are; that upon a careful examination there can be no doubt that the Seligmans held the stock in question as trustees and custodians by way of collateral security for themselves and the purchasers of the bonds, and that they are not liable for the company's debts. The judgment of the Circuit Court is affirmed with costs. Opinion by Justice Bradley.

At the National Exposition of Railroad Appliances, to be held in Chicago in May and June, it is proposed to have an "old curio shop," and the secretary is now trying to get information in the older parts of the country of such relics of the early days of railroads. Arrangements are to be made for the transportation of curiosities to Chicago and for their safe return.

Imports of Foreign Dry Goods at New York.

THE Imports of Foreign Dry Goods at New York for the month of January, were:

	ENTERED FOR CONSUMPTION.	1881.	1882.	1883.
Manufs. of wool....	\$1,597,994	\$2,501,274	\$1,189,845	
Manufs. of cotton....	2,597,217	3,406,104	2,875,758	
Manufs. of silk....	2,457,292	3,691,235	2,509,531	
Manufs. flax....	1,171,385	1,673,197	1,194,186	
Miscell. dry goods....	705,731	983,232	698,564	
Total ent. for consumption.....	\$8,823,619	\$12,255,043	\$9,467,584	

WITHDRAWN FROM WAREHOUSE.

	1881.	1882.	1883.
Manufs. of wool....	\$851,837	\$688,893	\$761,638
Manufs. of cotton....	1,143,641	765,622	1,132,411
Manufs. of silk....	742,023	652,417	879,571
Manufs. of flax....	863,820	600,823	609,044
Miscell. dry goods....	253,551	243,823	277,700
Total withdrawn from warehouse.....	\$3,854,872	\$2,951,578	\$3,660,364
Add ent. for con....	8,823,619	12,255,043	9,467,584

	Total thrown on the market.....	\$12,678,491	\$15,206,621	\$13,127,948
ENTERED FOR WAREHOUSING.				
	1881.	1882.	1883.	

Manufs. of wool....	\$657,785	\$753,339	\$907,494
Manufs. of cotton....	799,533	829,691	1,027,451
Manufs. of silk....	666,346	655,664	1,076,998
Manufs. of flax....	683,066	587,987	511,203
Mis. dry goods....	286,897	263,696	354,682
Total ent. for ware-house.....	\$3,033,606	\$3,089,777	\$3,877,728
Add entered for consumption	8,823,619	12,255,043	9,467,584

	Total ent. at port....	\$11,857,225	\$15,344,820	\$13,345,312
ENTERED FOR CONSUMPTION.				
	1881.	1882.	1883.	

Manufs. of wool....	\$10,408,182	\$12,861,522	\$14,220,609
Manufs. of cotton....	11,548,609	13,174,081	12,898,682
Manufs. of silk....	16,356,789	20,450,465	20,797,319
Manufs. of flax....	5,865,144	7,934,075	7,519,103
Mis. dry goods....	4,639,597	5,201,253	4,903,874
Total ent. for consumption	\$48,818,321	\$59,619,396	\$60,339,585

	WITHDRAWN FROM WAREHOUSE.	1881.	1882.	1883.
Manufs. of wool....	\$6,044,774	\$4,930,412	\$5,506,388	
Manufs. of cotton....	3,342,767	2,340,550	2,879,440	
Manufs. of silk....	4,190,906	3,165,302	4,013,429	
Manufs. of flax....	3,212,065	2,552,796	2,497,650	
Mis. dry goods....	1,347,733	1,337,041	1,241,836	
Total withdrawn from warehouse.....	\$18,138,245	\$14,326,701	\$16,138,633	
Add entered for consumption	48,818,321	59,619,396	60,339,585	

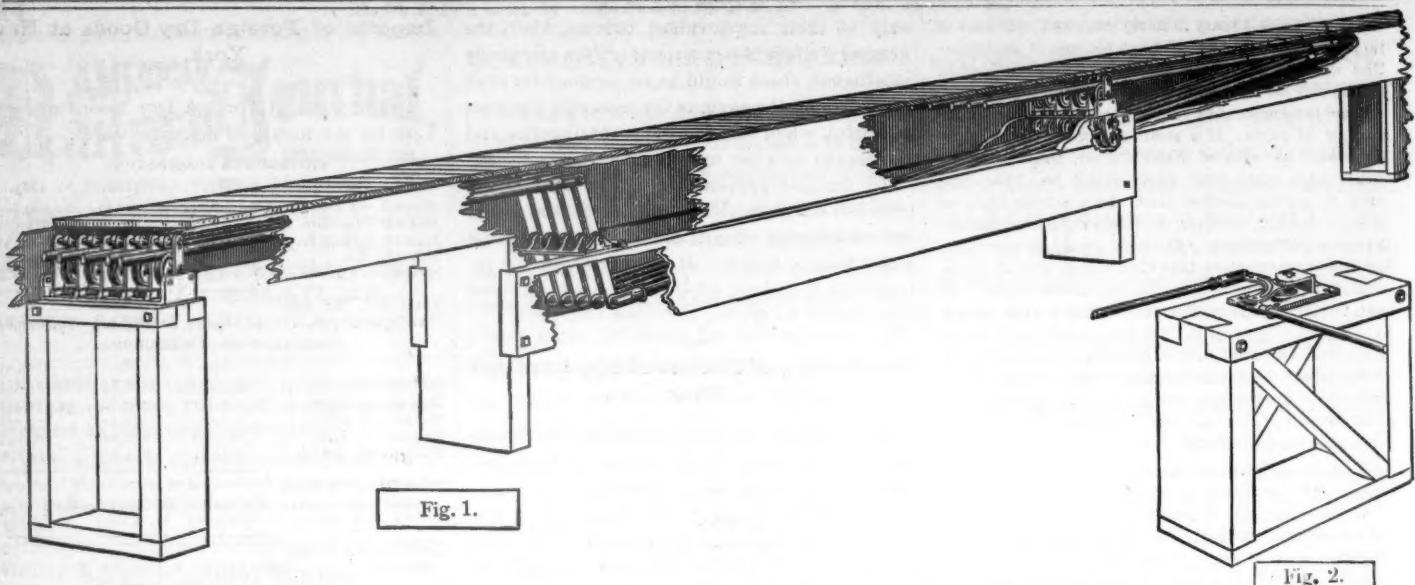
	Total thrown on the market.....	\$66,956,566	\$73,946,097	\$76,478,218
ENTERED FOR WAREHOUSING.				
	1881.	1882.	1883.	

Manufs. of wool....	\$6,056,919	\$4,309,027	\$6,045,375
Manufs. of cotton....	3,182,066	3,232,912	3,348,369
Manufs. of silk....	4,201,817	3,333,458	5,115,559
Manufs. of flax....	3,222,652	2,499,149	2,713,082
Mis. dry goods....	1,869,164	1,379,044	1,642,643
Total entered for warehouse	\$18,532,643	\$13,845,190	\$18,865,528
Add entered for consumption	48,818,321	59,619,396	60,339,585

	Total ent. at port....	\$67,350,964	\$73,464,586	\$79,205,113
ENTERED FOR CONSUMPTION.				
	1881.	1882.	1883.	

THE largest body of fresh water on the globe is Lake Superior, 400 miles long, 160 miles wide at its greatest breadth, and having an area of 32,000 square miles. Its mean depth is said to be 900 feet and its greatest depth about 200 fathoms. Its surface is about 635 feet above the level of the sea.

THE exchange of three and a half per cent bonds into three per cents was resumed at the Treasury Department on the 1st inst.



CONNECTIONS IN POSITION, COMPENSATORS, AND BELL CRANK, WITH THE FOUNDATIONS.

Interlocking Switch and Signal Apparatus.

[Continued from page 103.]

CONNECTIONS.

In an interlocking system it is requisite that the levers for a number of switches and signals should be concentrated in one frame, and the switchman is thus often of necessity placed a long way from some of the switches which he works, and the movements have to be conveyed to the switches by rods that must work accurately in all conditions of temperature or weather. In this system the rods are made of wrought iron pipes, carried between iron sheaves and rollers, resting on supports about eight feet apart. In the view accompanying, several lines of such rods are shown with the foundations to support them, and the boxing or trunking required to protect the rods from the weather and from being tampered with. The foundations are fixed in the ground to a depth of two or three feet.

To connect the sections of pipe securely together the sections are screwed firmly into the sockets usually employed, and for additional security at every joint a short iron bar is driven into the pipe, and after the pipe has been screwed together rivets through the pipe and the bar render it impossible for the joints to unscrew or break apart.

The expansion and contraction of long lines, under changes of temperature, produce alterations in the length which have to be guarded against, which is done by the self-acting compensating levers shown on Fig 1. The long rods are divided into approximate equal lengths and their ends are connected to the opposite ends of the compensating levers, and any alteration of length in one direction is counterbalanced by equal alteration of length in the other part, and the movement of the hand lever is transmitted unaltered in amount to the switch.

When the direction of the connection has to be changed, a bell crank is employed as shown in Fig. 2. This is to be fastened on a secure foundation, which is fixed in the ground to a depth of two or three feet.

FACING POINT LOCK.

In the progress of the development of Interlocking apparatus several dangers were found to exist when switches were worked from a distance, viz.: the danger of the switch not being completely shut, either from want of accuracy in adjustment of the working parts or from a stone or similar impediment finding its way between the rails; also the danger of a rod breaking or becoming disconnected without the knowledge of the switchman, in which case he might move the switch lever, and so put in operation all the appropriate locking and unlocking in the apparatus, without any corresponding movement of the points themselves having taken place; also the danger of a switchman carelessly or unwittingly moving switches while a train is going over them; and to meet such dangers the facing point lock was invented and in various adaptations has become an indispensable part of Interlocking apparatus.

Herewith is shown a switch with facing point lock, as designed by the inventor of the Cummings patent system. The first connecting bar of the switch is formed with two openings in it, and in front of this switch bar a long bolt slides in a suitable casting which is fastened on the cross-ties, so that when the switch has been completely moved into either of its two positions, the bolt may be pushed through the switch bar and thus lock the switch, and preventing it from being disturbed by the vibration of a passing train. A failure of the switch connections or an obstruction in the switch, will render it impossible for the bolt to enter the opening in the switch bar to lock the switch, and as the lock lever interlocks with the signal levers, no train can be signalled to approach until the switch is accurately adjusted and locked in its proper position.

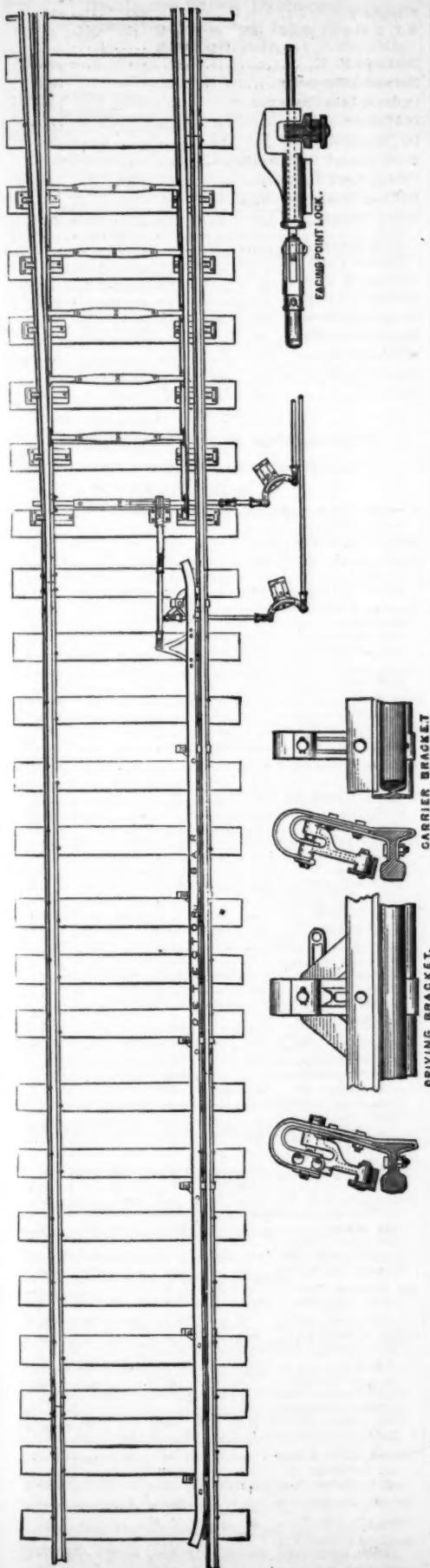
Connected to the switch bolt and moving longitudinally with it there is a bar called a Detector bar, or Safety bar, placed close to one of the rails of the track in front of the switch. The office of this Detector bar is to prevent the movement of the switch bolt while a train is passing.

The Detector bar is of angle iron, at least as long as the greatest distance between any two

pairs of wheels of any car used on the road; and is carried by short swinging levers supported on brackets fastened to the rail, and is connected to the switch bolt, so that when the switch bolt is drawn out of the switch bar to unlock the switch, or is returned into the switch bar to lock the switch, the Detector bar has also to make a longitudinal movement of several inches. The supports of the short swinging levers that carry the Detector bar are so arranged that the longitudinal movement of the Detector bar will cause the bar to approach the rail very nearly (as the swinging levers come towards a right angle to the rail), and then by the continued movement to recede from the rail. The enlarged views of the details of the brackets and swinging levers in above cut, show the bar in mid-stroke when it is nearest to the rail. The Detector bar comes so close to the rail in making the movement that any object between them would prevent the movement being made.

As the Detector bar is longer than the greatest distance between any two pairs of wheels, it follows that from the time at which the first pair of wheels of a train comes past the bar, to the time at which the last pair of wheels passes, the Detector bar cannot be moved; and as the bar is rigidly connected with the switch bolt, it is impossible for a switchman to even move the bolt while a train is passing the Detector bar. Thus, while this facing point lock is in use, a switchman has, in order to adjust a switch for a train to pass over it, first to put the switch in proper position, and then to throw the switch bolt. When these two operations are complete—and not before—he can give the signal to allow an approaching train to pass over the switch. The brackets which support the Detector bar and its swinging levers are made of steel, and from their shape and inclined position, will spring down, if fouled with wheels passing, and return to position again without injury.

The Detector bar in this improved arrangement moves so much easier than in the original arrangement, wherein the Detector bar had to be lifted up and thrown forward or backward, that it has been found perfectly practicable to

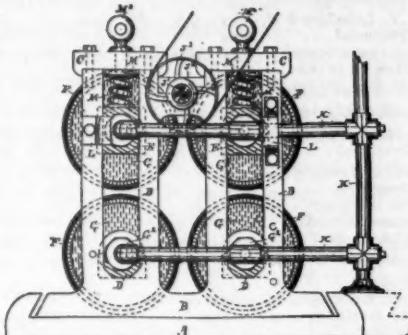


FACING POINT LOCK AND DETECTOR BAR.

move two such facing point locks at one time with same lever, thus saving in the case of a

pair of cross over switches, the expense of one hand lever and the connections. This arrangement will also allow the Detector bar to serve as a guard rail for a frog, and thus permit a very close proximity of frogs and opposite switches requiring a facing point lock, and has been found a convenience in crowded yards.

Apparatus for Drying Lumber.



AN invention of great use has been made and patented recently by Albert Thalheimr, of Reading, Pennsylvania. The invention constitutes a new and useful improvement in apparatus for drying lumber. It relates more particularly to the drying of thin lumber or veneers, and the means adopted to retain them in a straight and unwarped condition. The improvement is believed to offer a simple and inexpensive mode of securing the desired end, seeing that it does away with extensive, costly and dangerous dry-houses, reduces the capital necessarily locked up in great stocks of lumber, and insures the production of thin lumber which is level, straight and out of wind.

The construction of the apparatus is as follows: Twin housings are finished between jambs to receive bearing-boxes, of which the lower are half boxes and the upper whole boxes. Both are bored to fit journals or necks of rolls. The upper boxes may be supported or poised upon steel-yards, as is common in rolling-mills, or they may rest upon lugs or pins in the housing-jambs, so arranged as to let the upper roll down within the minimum distance it is intended to come to the lower roll. The housings are preferably cast double, or tinned. The foundations are cast either complete for each pair or lengthened out to receive as many couples as it is desired to use for the purpose of drying. The rolls are preferably built up, but may be cast complete. At one side of the housings, and on the projected necks of the upper rolls, are placed spur-gearing, and intermediate to the rolls and above the line of their centers, so as to permit their adjustment, are placed a spur-pinion and band-pulley shaft having bearings in a box forming part of the twin housing, the pinion being in gear with the wheels on the roll-necks and the band-pulley suitably connected with a revolving shaft. On the side of the housing opposite to the gearing the necks of the rolls are counterbored to receive a stuffing-box gland, through which is passed a steam-delivery pipe, making the passage steam-tight by packing in the usual manner. This pipe may be connected with both sets of rolls (top and bottom), the connection with the main or boiler being at such distance

from the center of the rolls as will admit of the necessary vertical movement of the top rolls without disturbing the connection. To give stability the main is carried down to the floor and the end secured in a foot; and to prevent the steam (by reaction) driving the connection out of the roll-necks, a yoke is placed over the center of the horizontal pipes, and by means of set-screws therein brought in contact with the elbow and to retain the same in place. The rolls, when steam-heated, have solid disk-heads, except when bored for inress and egress of the steam, while the heads of the rolls which are gas-heated are provided with openings between the rim and journals for the admission of air to support the combustion of gas at the burners. For moderately green lumber live steam is used in all of the rolls, and for very green the steam is replaced with gas. Sometimes a combination of both steam and gas produced the desired result. For drying moderately green lumber, one set of housings and rolls running at a slow speed will be ample; and if it is desired to have the drying proceed more rapidly, additional sets of the housings and rolls are put in the train. The lumber may then be passed through at a greater speed. In this way, having a sufficient number of rolls *en train*, the lumber may be received direct from the saw at the mill, and be delivered from the train perfectly seasoned and in a workmanlike condition. The lumber while passing through the rolls has a certain compressive strain put upon it; and the steam passing into the rolls, or the gas burning therein, an intense drying-heat is obtained, which evaporates the watery particles exuded by the pressure, at the same time thoroughly heating the lumber, which being firmly held while this process is being performed, it results in producing an unexceptionably fine-conditioned article of lumber.

Sly Trick of a Relief Horse.

ANY one desirous of verifying the following story need only to take a stand at the foot of Chardon street, where the relief horses are stationed, and watch Lady Knights' manoeuvrings. Lady Knights is a veteran on the relief corps of horses, having served in that capacity some eight or ten years, and it is quite evident that during that time she has learned a thing or two by observation, if in no other way. Part of the day two horses are kept for the purpose of helping the cars up the hill, and they alternate, or are supposed to, in their duties. But Lady Knights is a sly boots, and needs a vigilant eye to see that she doesn't cheat. When the relief horse gets to Bowdoin square it is unhitched and goes back to the foot of the hill, taking its place next to the curbstone, which indicates to the next car that the outside horse is to help pull up the hill. So accustomed have the horses become to this routine that they seem to go through it mechanically, and are often left to go down alone and take their places. Now this is one of Lady Knights' favorite tricks: When the other horse comes down and stations himself in his proper place she walks up just ahead of him and then backs herself in between Old Stupid and the curbstone. The consequence is Old Stupid sometimes pulls three or four successive cars up the hill, and would probably keep on pulling for the rest of the day did not the attendant come to the rescue. The look of injured innocence which Lady Knights assumes when the man snakes her out from next the curb and puts her in her proper place is funny.—*Boston Journal*.

THE STOCK EXCHANGES AND MONEY MARKET

New York Stock Exchange.

Closing Prices for the week ending Feb. 6.

W. 31. Th. 1. F. 2. Sat. 3. M. 5. Tu. 6.
Adams Express.... 135 135 135
Albany and Susq.
1st mortgage.....
ad mortgage.....
American Express.... 91% 92% 90%
Burl. C. R. & Nor.
1st mortgage 5%
Canada Southern.... 68% 68% 66% 66% 67% 67%
1st mortgage guar 95% 95% 95% 95% 94% 94%
Central of N. Jersey.... 72% 72% 72% 71% 72% 72%
1st mort. 1860....
7%, consol. ass. 10% 110%
7%, convertible ass. 10% 110%
7%, Income.....
Adjustment.....
Central Pacific.... 83% 83% 82% 82% 82% 82%
6%, gold.....
1st M. (San Joaq)....
1st M. (Cal. & Or.)....
Land grant 6%
Chesapeake & Ohio.
22% 22% 22%
1st pref.
ad prof.
1st mort., series B 91 91 90% 90% 90% 90%
Chicago and Alton. 135 136
Preferred.....
1st mortgage.....
Sinking Fund.....
Chi., Bur. & Quincy 123% 122% 122 121% 122% 120%
7%, Consol. 1903.... 127% 127%
Chi., Mill. & St. Paul 106% 105% 104% 102% 103% 101%
Preferred.....
120% 120% 119% 119 119 118
1st mortgage, 6% 134
2d mort. 7 3-108.
7%, gold.....
127 127
1st M. (La. C. div.)....
1st M. (L. & M. div.)....
1st M. (L. & D. ext.)....
1st M. (H. & D. div.)....
1st M. (C. & M. div.)....
Consolidated S. F.
125
Chi. & Northwestern 131% 130 128% 130% 130% 131%
Preferred.....
145% 145 145% 147 140
1st mortgage.....
Sinking Fund 6%
Consolidated 7%
Consol. Gold bo'ds....
Do. reg.
125%
Chi., R. I. & Pac. 124 123 122% 122% 123% 123%
6%, 1917, c.....
124% 124% 124% 124%
Clev., Col., Cin. & Ind. 80 78% 78% 78 77%
1st mortgage.....
Clev. & Pittsburg gr. 7%
7%, Consolidated.
4th mortgage.....
110%
Col., Chi., Ind. Cent.
4
1st mortgage.....
ad mortgage.....
Del. & Hud Canal. 107% 108 108 107% 107% 107%
Reg. 7%, 1891....
Reg. 7%, 1884....
7%, 1894....
Del. Lack. & Western 125% 125% 124% 122% 123 122%
ad mortgage 7%
Consol. 1907....
Erie Railway....
1st mortgage.....
ad mort. 5%, ext.
3d mortgage.....
4th mort. 5%, ext.
5th mortgage.....
7%, Consol. gold.
130%
Great West. 1st mort.
ad mortgage.....
100%
Hannibal & St. Jo.
41%
Preferred 86 85%
8%, Convertible.
108
Houston & Tex. Cen.
1st mortgage.... 108% 108%
ad mortgage.....
101 101
Illinois Central.... 147 146 145% 145% 146% 146%
LakeShore & Mich So 110% 109% 108% 109 110% 109%
Consol. 7%
Consol. 7%, reg.
126
ad Consolidated.....
Loh. W. B. con. ass.
Long Dock bonds.
118
Louisville & Nash. 55% 57 56% 55% 56% 55%
7%, Consol. reg.
Manhattan.....
46
1st pref.
Met. Elevated....
81 80
1st mortgage.... 98% 98 98
Michigan Central.... 96% 96% 95 94% 96% 95%
7%, 1908....
Morris & Essex.... 122%
1st mortgage....
135%

ad mortgage.....
7% of 1871.....
7%, Convertible.....
7%, Consolidated.....
N. Y. Can. & Hud. R. 126 125% 125% 125 125% 125%
68, S. F. 1883....
68, S. F. 1887....
1st mortgage. 130 130
1st mortgage, reg.
N. Y. Elevated.....
1st mortgage.....
N. Y. & Harlem.....
Preferred.....
1st mortgage.....
1st mortgage, reg.
N. Y. Lake Erie & W. 39% 38% 38% 37% 38 37%
Preferred.... 80% 80
ad Consolidated. 97% 96% 96% 96% 96% 96%
New ad 5% fund.
N.Y. N.Hav'n'& Hart 170 170%
North Mo. 1st mort. 119
Northern Pacific.... 49% 49% 48% 47% 48% 47%
Preferred.... 85% 84% 84 83% 84% 81
Ohio & Mississippi.....
Preferred.....
2d mortgage.....
Consolidated 7%
Consol. S. Fund.
Pacific Mail S. Co.
40% 41% 40% 41 41%
Pacific R. R. of Mo.
1st mortgage.... 105
2d mortgage.....
Panama.....
Phila. & Reading. 55% 54% 54% 54% 54 53%
Pitts. Ft. W. & Chi. gtd 136 136
1st mortgage.....
2d mortgage.....
3d mortgage.....
Pullman Palace Car
121
Quicksil'r Min'g Co.
8
St. Louis & San Fran 31% 31% 30 30% 30% 30%
Preferred.... 51% 51 50% 50 50 50%
1st Preferred.... 93
St. L., Alt'n & T. H. 68% 68% 63% 61 64 65
Preferred.... 97 93%
1st mortgage.....
2d mort. pref.
Income bonds.....
St. L., Iron Mt. & S.
1st mortgage.....
2d mortgage.....
Toledo and Wabash.
1st mortgage.....
2d mortgage.....
7%, Consolidated.....
St. Louis Division.....
Union Pacific.... 99% 98% 97% 96% 95% 94%
1st mortgage.... 113% 113% 114 113% 114 113%
Land Grant 7%
Sinking Fund 8%
United States Ex.
65
Wabash, St. L. & Pac 33% 32% 32 31% 31% 31%
Preferred.... 53% 53% 52% 52% 52% 51%
New mort. 7%
Wells-Fargo Ex.
124
Western Pacific b'ds....
112%
Western Union Tel. 82% 81% 80% 80% 81% 78, S.F.CORV., 1900
117
FEDERAL STOCKS:—
U. S. 4%, 1907, reg. 113% 118% 119%
U. S. 4%, 1907, coup. 118% 118%
U. S. 4%, 1891, reg. 112%
U. S. 4%, 1891, coup. 113% 113%
U. S. 5%, cont'd at 3% 103%
U. S. 3%, reg. 104% 104% 104%
Dt. of Col. 3-658, reg. 104% 104%
Dt. of Col. 3-658, coup.
BOSTON STOCK EXCHANGE.
Closing Prices for the Week Ending Feb. 6.
W. 31. Th. 1. F. 2. Sat. 3. M. 5. Tu. 6.
Atch., Top. & San. Fe. 82% 81% 81% 80% 80% 81
1st mortgage.....
Land Grant 7%
Boston & Albany. 174 174 174 174 175 175%
Boston and Lowell.
Boston & Maine.
155 155%
Boston & Providence 162 162
Bos'n, Hart. & Erley's
Burl. & Mo. R. L. G. 7%
Burl. Mo. R. in Neb.
6%, exempt.
4%
Chi., Bur. & Quincy 123 122 121% 121% 121 121%
Cin. Sand&Clev.(\$50)
23
Concord (\$50)
102
Connecticut River.....
Eastern.....
40 40 40 40 42 45 47
New 6s, Bond.
110% 110%
PITTSBURGH.
N. Y. & New England 48% 47 47% 46 46 48
7%
Northern N. H.
111 111
Norwich & Worcester.....
Ogden & Lake Cham.
Old Colony.....
137 136%
Ph. Wil. & Balt. (\$50). 63 62
Portl'd, Saco & Ports 112%
Pueblo & Ark Val 7%
113%
Pullman Palace Car 124%
121%
Union Pacific. 100 99 97% 96% 95% 94%
6%
Land Grant 7%
Sinking Fund 8%
Vermont & Mass. 131
Worcester & Nashua.....
Cambridge (Horse). 95 96 95%
Metropolitan (Horse) 73
Middlesex (Horse). 101
Cal. & Hecla Min'g Co 242 242 242 243 243 243
Quincy.....
52 50 49% 50% 51 50%
PITTSBURGH STOCK EXCHANGE.
Closing Prices for the Week Ending Feb. 6.
W. 31. Th. 1. F. 2. Sat. 3. M. 5. Tu. 6.
Allegh'y Val. 7 3-108
7%, Income.....
Buff., Pitts & West. 18 17% 17% 17 16% 16%
Gand'm & Am. 6s, '83
6s, 1880....
Mort. 6s, 1889.... 112
Camden & Atlantic.
Preferred.....
1st mortgage.....
2d mortgage.....
Catawissa.....
Preferred.....
2d pref.
7s, new
Del. & Bound Brook.
7s
Elmira & Williamspt'.
Preferred.....
Hunt. & B. Top Mt.
Preferred.....
2d mortgage.....
Lehigh Navigation. 39% 39%
6s, 1884.... 102%
Gold Loan
Railroad Loan.
Conv. Gold Loan.
Consol. Mort. 7%
Lehigh Valley.... 65 64% 64% 64% 64% 65
1st mort. 6s, coup.
1st mort. 6s, reg.
ad mort. 7%
Consol. mort. 6s.
Consol. mtg. 6s, reg.
Little Schuylkill.....
Minehill & Sch. Hav'n 62
North Pennsylvania 67 67 67
1st mortgage 6s.
2d mortgage 7s.
Genl. mtg. 6s, coup.
Genl. mtg. 7s, reg.
Northern Central. 55 55
58
54%
Northern Pacific. 49% 49 48% 47% 48% 48
Preferred.... 85% 84% 84 83% 84% 83%
Pennsylvania R. R. 60% 60% 59% 59% 59% 60%
1st mortgage.....
Gen'l mort.
Gen'l mort. reg.
Consol. mort. 6s.
Consol. mort. reg.
Pa. State 5s, new.... 117 117
do 4s, new.... 117 117
do 3/4s, 1912.... 117
Phila. & Reading. 27% 27% 27% 27% 26% 27
1st mortgage 6s.
7s of 1893.... 120
7s, new convert. 76%
Consol. mort. 7s.
Consol. mort. reg.
Gen'l mort. 6s.
94% 94% 94% 94% 94% 94%
Def. Income bonds ...
28 28
Philadelphia & Erie.
1st mortgage 5s.
2d mortgage 7s.
Pitts., Clin. & St. L. 7s.
120%
Pitts., Tit. & Buff. 98 94%
94 94
Schuylkill Nav'l'tn.
Preferred.... 131% 13% 13%
6s, 1897.... 106%
6s, 1907.... 89%
United Co. of N. J. 188%
190 190
Huntington, (Horse) Chestnut & Walnut.
90

Baltimore Stock Exchange.

Closing Prices for the Week Ending Feb. 5.
Tu. 30. W. 31. Th. 1. F. 2. Sat. 3. M. 5.

Baltimore & Ohio...	6s, 1885.....	109 1/4	131	131	131	131
Central Ohio (\$50)...	1st mortgage.....	50	50	50	50	50
Marietta & Cincin'ti.	1st mortgage, 7s.....	101 1/4	101 1/4	101 1/4	101 1/4	101 1/4
	2d mortgage, 7s.....	101 1/4	101 1/4	101 1/4	101 1/4	101 1/4
	3d mortgage, 8s.....	54 1/4	54 1/4	54 1/4	54 1/4	54 1/4
Northern Can. (\$50).	55 1/2	55	55	55	55 1/2	55 1/2
	ad mort. 6s, 1885.....	114 1/2	114 1/2	114 1/2	114 1/2	114 1/2
	3d mort. 6s, 1900.....	113 1/2	113 1/2	113 1/2	113 1/2	113 1/2
	6s, 1900, gold.....	112 1/2	113	113	113	113
Pitts. & Connells. 7s.	120	120	120	120	120	120
Virginia 6s Consol.	51	52	52	52	51 1/2	51 1/2
Consol. coupons.....	51 1/2	52	52	52	51 1/2	51 1/2
10-40 bonds.....	40	40	40	40	38 1/2	38 1/2
Def'd Certificates.....	40	40	40	40	38 1/2	38 1/2
New 3s.....	49	49 1/2	49 1/2	49 1/2	48 1/2	48 1/2
Western Maryland.....	110	110	110	110	110	110
1st M., end. by Balt.....	110	110	110	110	110	110
2d M., do.....	110	110	110	110	110	110
3d M., do.....	110	110	110	110	110	110
1st M., unendorsed.....	110	110	110	110	110	110
2d M., end. Wash Co.....	110	110	110	110	110	110
2d M., preferred.....	110	110	110	110	110	110
City Passenger R. R.	110	110	110	110	110	110

London Stock Exchange.

Closing Prices—

	Jan. 12.	Jan. 13.	Jan. 14.	Jan. 15.	Jan. 16.	Jan. 17.
Baltimore and Ohio 5s, 1927.....	107	109	107	109	107	109
Central of N. J., \$100 shares.....	70	75	70	75	70	75
Do. consol. mort.....	111	113	111	113	111	113
Do. Income Bonds.....	88	92	88	92	88	92
Central Pacific of Cal., \$100 shs.	90	91	90 1/2	91 1/2	90 1/2	91 1/2
Do. 1st mort. 6s, 1895-'98.....	115	117	115	117	115	117
Det., G'd Haven & Mil. Equip bds.	120	120	118	120	118	120
Do. Con. M. sp. c., till '83 after 6p.c.	119	117	117	119	117	119
Illinois Central \$100 shares.....	148 1/2	149 1/2	148	149	148	149
Do. S. F. 5s, 1903.....	105	107	105	107	105	107
Lehigh Valley Cons. mort. 1923.....	115	120	115	120	115	120
Louisville and Nashville mort. 6s 94.....	96	94	96	94	96	94
Do. capital stock \$100 shares....	56	57	58 1/2	59 1/2	57	58 1/2
N. Y. Cen. & Hud. R. mort. bonds.	135	130	135	130	135	130
Do. \$100 shares.....	130	131	131	132	131	132
Do. mort. bonds (stg.).....	119	121	119	121	119	121
N. Y. Lake Erie & West. \$100 shs. 40 1/2	103	105	103	105	103	105
Do. 6 p. c. pref. \$100 shares....	84	86	84	86	84	86
Do. 1st Con. Mort. bonds (Erie).	128	128	128	132	128	132
Do. do. Funded Coupon bonds.	125	125	125	130	125	130
Do. ad Consol. Mort. bonds....	99	101	99	101	99	101
Do. do. Funded Coupon bonds.	97	99	97	99	97	99
N. Y. Pa. & Ohio 1st mort. bonds.	52	52	52	52	52	52
Do. Prior Lien bonds (sterling).	103	106	103	106	103	106
Pennsylvania \$50 shares.....	61 1/2	62 1/2	61 1/2	62 1/2	61 1/2	62 1/2
General Mortgage.....	121	123	121	123	121	123
Phil. & Erie Gen. mort. 6s, 1920-....	114	116	114	116	114	116
Philadelphia & Reading \$50 shs.	28 1/2	28 1/2	29 1/2	29 1/2	28 1/2	29 1/2
General Consol. Mortgage.	115	117	115	117	115	117
Do. Improvement Mortgage....	104	106	104	106	104	106
Do. Gen. Mtg. '74, ex-def'd coup.	94	96	94	96	94	96
St. L. Bridge 1st mort. gold bond.	122	124	122	124	122	124
Do. 1st pref. stock.....	92	96	92	96	92	96
S. P'lic of Cal., 1st mort 6s, 1895-6.	107	103	107	108	103	108
Union Pacific, 1st mtg. 6s, 1869-9.	116	118	116	118	116	118
Wabash, St. L. & P. \$100 shares....	35 1/2	36 1/2	36	37	36 1/2	37
Do. \$100 pref. shares.....	55 1/2	56 1/2	57 1/2	58 1/2	56 1/2	57 1/2
Do. gen. mort. bonds.....	81	83	82	84	83	84

AMERICAN RAILROAD JOURNAL.**Financial and Commercial Review.**

WEDNESDAY EVENING, FEBRUARY 7, 1883.

RATES for money on call on stocks this morning, and down to 3 o'clock, were 3 1/2 @ 4 per cent; on Governments, 2 to 3 per cent.

The posted rates for foreign exchange were: 4.83@4.83 1/2, and 4.86 1/2 @ 4.87. The actual rates were as follows: Sixty-day bills, 4.82 1/2 @ 4.83; demand, 4.85 1/2 @ 4.86; cables, 4.86 1/2 @ 4 1/2; commercial bills, 4.81 @ 4.81 1/2. Continental bills were as follows: Francs, 5.21 1/2 @ 5.21 1/2; guilders, 5.18 1/2; reichsmarks, 94 1/2 @ 1/2 and 95 1/2 @ 1/2; guilders, 39 1/2 and 40 1/2.

From a statement which was presented at the recent monthly meeting of the directors of the Chicago, Milwaukee and St. Paul Railway Company we learn that the gross earnings of the road during the year 1882 were \$20,386,725.86, the operating expenses \$12,186,073.21 (or 59.77 per cent), and the net earnings \$8,200,652.65.

There was chargeable to the income account, interest on the bonds for 1882 and 7 per cent dividend on preferred and common stock, \$7,581,040.58—leaving a balance of net earnings of \$619,612.07. The cash receipts from the sales of lands during the year were \$1,014,223.16, and the addition to the surplus was \$1,633,835.23.

The Secretary of the Treasury issued on the 1st inst. the 120th call for the redemption of bonds of the 5 per cent funded loan of 1881, continued at 3 1/2 per cent from August 12, 1881. The call is for \$15,000,000, and notice is given that the principal and accrued interest will be paid at the Treasury May 1, and that the interest on said bonds will cease on that day.

The bonds called are registered bonds of the acts of July 14, 1870, and January 20, 1871, continued during the pleasure of the Government under the terms of circular No. 52, dated May 12, 1881, to bear interest at the rate of 3 1/2 per centum per annum, from August 12, 1881, as follows: \$50—No. B 401 to No. B 478, both inclusive; \$100—No. B 3,101 to No. B 3,650, both inclusive, and No. B 13,332 to No. B 13,358, both inclusive; \$500—No. B 1,601 to No. B 1,950, both inclusive, and No. B 5,965 to No. B 5,973, both inclusive; \$1,000—No. B 7,501 to No. B 9,400, both inclusive, and No. B 20,814 to No. B 20,840, both inclusive; \$5,000—No. B 2,001 to No. B 2,500, both inclusive, and No. B 5,811 to No. B 5,815, both inclusive; \$10,000—No. B 5,001 to No. B 9,000, both inclusive, and No. B 18,486 to No. B 18,490, both inclusive; \$20,000—No. B 1,501 to No. B 1,537, both inclusive, and No. B 2,249 to No. B 2,250, both inclusive; \$50,000—No. B 3,051 to No. B 3,900, both inclusive, and No. B 6,047 to No. B 6,056, both inclusive.

The bonds before described are those last dated and numbered as required by section 3 of the act of July 14, 1870, and those embraced in the highest numbers in the several denominations as given are the bonds which have been issued on transfers since the 119th call was issued. Many of the bonds originally included in the above numbers have been transferred or exchanged and cancelled, having outstanding the amount above stated.

The three months' interest due May, 1883, on the above-described bonds will not be paid by checks forwarded to the holders of the bonds, but will be paid, with the principal, to the holders at the time of presentation.

The Commissioners of Accounts in their report to the Mayor say that during the statutory year just closed the receipts of the City of New York from all sources amounted to \$65,428,143.75, which, added to a cash balance from 1881 of \$11,614,286.54, makes a total of \$77,042,430.29. During the year the sum of \$69,783,522.53 was paid out of the city treasury, making the amount of cash in the hands of the City Chamberlain \$7,258,907.76, which was on deposit in the following companies:—Importers and Traders' National Bank, \$713,137.76; Marine National Bank, \$525,000; Hanover National Bank, \$1,180,000; Continental National Bank, \$1,200,000; St. Nicholas National Bank, \$600,000; Oriental Bank, \$150,000; United States National Bank, \$730,000; Lincoln National Bank, \$770,770; National Park Bank, \$650,000;

Chatham National Bank, \$140,000; Merchants' National Bank, \$200,000, and the Central Trust Company, \$400,000. The amount of money borrowed on the credit of the city during the year was \$24,965,715.40, and stocks and bonds were paid and cancelled to the amount of \$26,825,924.04. The total gross debt at the end of the year, represented in stocks, bonds and otherwise, is given as \$146,598,243.53, of which the Commissioners of the Sinking Fund for the redemption of the debt hold \$39,371,243.53, making the total net debt \$107,227,000.

The Department of State at Washington has just issued a report on the commercial relations of the United States with the world for a series of years. That part which relates to our commerce with Mexico, owing to the pending treaty negotiations, is of peculiar interest. It gives the figures in detail of the imports from that country, both free of duty and dutiable, for the fiscal year 1881, which amounted to \$8,317,802. During the same period the exports from the United States to Mexico amounted to \$11,191,238, of which \$1,993,161 represented foreign merchandise. Iron and steel manufacturers show the greatest increase in value over the exports for the preceding year, the increase being \$1,267,000; cotton manufactures next, \$186,000. The increase in the general trade of the country may be attributed in a great measure to the wants created by the development of railroad and mining interests, which in their growth will necessarily create other industries. The Secretary says it is not too much to assume that the imports of Mexico, under fairly favorable circumstances, will double their present proportions during the next five years, and that one-half of this trade should be with the United States.

A full and final settlement has been effected between the Crawford syndicate and the Louisville, New Albany and Chicago Railroad Company whereby the latter came into possession on the 1st inst. of 158 miles of new road. This new road, extending from Indianapolis to Chicago, is an air line and was built by Henry Crawford for the Louisville, New Albany and Chicago Company. The terms on which the company accepted the work are said to have been entirely satisfactory to vice-president Standiford and his associates. Trains will be run at once, the company having secured additional rolling-stock in anticipation of the new acquisition. The new road will be known as the Indianapolis Division of the Louisville, New Albany and Chicago Railroad.

The refunding of the \$1,700,000 Camden and Amboy Railroad 6s of 1883, which fell due on the 1st inst., into the new United Companies of New Jersey forty year gold 4s, has been completed. The new loan was issued at 93 1/2.

The stockholders of the Buffalo, New York and Philadelphia, and the Olean and Salamanca Railroad Companies have voted unanimously in favor of the consolidation of those roads with the Buffalo, Pittsburgh and Western and the Oil City and Chicago Railroads. The consolidated road, which will be known as the Buffalo, New York and Philadelphia Railroad Company, will have a capital stock equal to the sum of the capitals of the several companies merging, and will assume all the liabilities of

each company. The holders of the common and preferred stock of the Buffalo, New York and Philadelphia, and the Olean and Salamanca, will receive 20 per cent additional stock in kind, payable out of the stock now in the treasury of the Buffalo, Pittsburgh and Western. The stockholders of the Buffalo Pittsburgh and Western, and of the Oil City and Chicago (other than the Buffalo, Pittsburgh and Western Railroad Company), will receive share for share. The Buffalo, Pittsburgh and Western will receive share for all the stock of the Oil City and Chicago remaining in the treasury after deducting the 20 per cent to be paid to the stockholders of the Buffalo, New York and Philadelphia, and the Olean and Salamanca.

The following quotations of sales of railway and other securities, for the week, are in addition to those given elsewhere in our columns.

New York.—Atlantic and Pacific 1st, 94; Atchison, Colorado and Pacific 1st, 90; Buffalo, New York and Erie 1st, 1016, 130; Boston and New York Air Line pref., 8; Chicago and Northwestern 8. F. 58, 100%; Chicago and Eastern Illinois 1st, 99%; Cedar Falls and Minnesota, 14; Chicago, St. Paul, Minn. and Omaha, 46%; do, pref., 105; do, consol., 108; Chesapeake and Ohio cur. 68, 53; do, 68, 1011, 100%; Chicago, Milwaukee and St. Paul, Southern Mion. div. 1st, 106%; do, Chicago and Pacific div. 1st, 108%; do, Chicago and Pacific Western div. 1st, 92; do, Southwestern div. 1st, 107%; do, La C. and Dav. div. 1st, 94%; Chicago, Burlington and Quincy, Iowa div. 48, 87%; do, Denver div. 48, 84%; Chicago, St. Paul and Minneapolis 1st, 108; Columbus, Hocking Valley and Toledo 1st, 85; Chicago, St. Louis and New Orleans 1st, 117; do, 58, 104; Col., Chicago and Ind. Central inc., 50; do, Reorganization certif., 62; Denver and Rio Grande, 45%; do, 1st, 108%; do, consol., 89%; Denver, South Park and Pacific 1st, 94; East Tenn., Va. and Ga., 94%; do, pref., 16; do, inc., 38; do, 58, 71%; Evansville and Terre Haute, 75; do, 1st, 97; Elizabethtown, Lex. and Big Sandy 68, 94; Fort Worth and Denver, 30%; Gulf, Colorado and Santa Fe 1st, 111; Hudson River 2d, S. F., 106%; Hannibal and St. Joseph 68, consol., 108; Indianapolis, Decatur and Springfield 1st, 101%; International and Gt. Northern coupon 68, 83; do, 1st, 105; Indiana, Bloomington and Western, 30; do, inc., 43; do, Eastern div. 1st, 92%; Illinois Leased Line, 78%; Iowa Midland 68, 129%; Jefferson 1st, 105; Keokuk and Des Moines 1st, 101%; Kansas Pacific 68, 106, 108; do, 1st consol., 98; do, 1st, Denver div. ass., 107%; Louisiana and Missouri River 1st, 114%; Long Island, 62%; do, consol., 58, 97%; do, 1st, 117%; Louisville, New Albany and Chicago, 64; do, 1st, 102%; Lake Erie and Western, 28%; do, 1st, 98%; Louisville and Nashville gen'l mort. 68, 92%; Lafayette, Bloomington and Munroe 1st, 100; Minneapolis and St. Louis, 26; do, pref., 6; do, Southwestern Ext. 1st, 110%; do, Pacific Ext. 1st, 101%; Missouri, Kansas and Texas, 30%; do, gen'l mort. 68, 79%; do, consol., 78, 105; do, ad, 56; Missouri Pacific, 101%; do, 3d, 109%; Memphis and Charleston, 43; Mobile and Ohio, 18%; do, new mort., 107; do, 1st debent., 83; do, 3d debent., 37; Manhattan Beach, 18%; Milwaukee, Lake Shore and Western pref., 46; do, 1st, 98%; Michigan Southern 8. F., 106%; Michigan Central 58, 102%; New York, Chicago and St. Louis, 11%; do, pref., 26; do, 1st, 97%; Nashville, Chattanooga and St. Louis, 61; do, 1st, 116; New York, Ontario and Western, 25%; Norfolk and Western pref., 44; do, gen'l mort., 101%; Northern Pacific 1st, 103%; New Orleans Pacific 1st, 89; Nashville and Decatur 1st, 116; Ohio Central, 12; do, 1st, 93%; Oregon Railway and Nav., 138; do, 1st, 106%; Oregon Transcontinental, 84; do, 1st, 94%; Ohio Southern, 13; do, 1st, 81%; Oregon Short Line 68, 96%; Peoria, Decatur and Evansville, 23; do, Evansville div. 1st, 99%; Pennsylvania Co. 4% 68, 95%; Rome, Watertown and Ogdensburg ext. 58, 73; do, inc., 43; Rochester and Pittsburgh, 20%; do, 1st, 104; Richmond and Danville, 55; do, 1st, 93%; do, debent., 58; Richmond and Alleghany, 18%; do, 1st, 70%; Richmond, Danville and West Point, 26; St. Paul, Minn. and Man., 142; do, 1st, 100; do, ad, 108%; do, Dakota Ext. 1st, 108%; St. Paul and Duluth, pref., 95; Southern Pacific of Cal. 1st, 104%; South Pacific of Missouri 1st, 103%; St.

Louis and Iron Mt. Arkansas Branch 1st, 109; do, 58, 76%; Cairo, Ark. and Texas 1st, 100; do, Cairo and Fulton 1st, 109%; St. Louis, Alton and Terre Haute div. bonds, 75; South Carolina 1st, 102%; St. Louis, Kansas City and Northern, Omaha div. 1st, 109; do, St. Charles Bridge 1st, 90; do, B. E. 78, 108%; St. Louis and San Francisco 2d, Class B, 94; Texas Central 1st, 105%; Texas and Pacific, 38%; do, inc., L. G., 58%; do, Rio Grande div. 1st, 80%; Utah Southern ext. 1st, 100%; Union Pacific col. trust, 104; Winona and St. Peter 1st, 106; Wabash, St. Louis and Pacific gen'l mort. 68, 78%; do, Toledo, Peoria and Western 1st, 107%; do, Iowa div. 1st, 90; Alabama, Class A, 82; do, C, 85; Arkansas 78, M. & R. R., 51; do, L. R. & Ft. S., 67; do, L. R., P. B. & N. O., 55; do, Central, R. R., 25; do, 68, fund., 25; Georgia 68, 1886, 107%; do, 78, gold, 114; do, 78, endorsed, 107; Louisiana consol., 73; North Carolina 68, old, 31; Tennessee 68, 44; do, compromise bonds, 47%; Mutual Union Tel., 23; do, 68, 76%; American Cable, 66; Am. Dist. Tel., 40; Colorado Coal and Iron, 28%; do, 68, 88%; Maryland Coal, 17; Pennsylvania Coal, 270; Homestake Mining, 17%; Ontario, 34.

Boston.—Atlantic and Pacific inc. 10; do, blocks, 103%; do, 68, 93%; Burlington and Missouri River in Nebraska 68, non-exempt, 103%; Connecticut and Passumpsic Rivers, pref., 90; Cincinnati, Sandusky and Cleveland pref., 23; do, 78, 103%; Chicago, Burlington and Quincy 48, Denver ext. 83; do, S. W. div. 48, 80; California Southern 1st, 61; Chicago and West Michigan, 61; Connerton Valley, 31; Detroit, Lansing and Northern, 81; Flint and Pere Marquette, 26%; do, pref., 99; Iowa Falls and Sioux City, 87; Kansas City, Springfield and Memphis blocks, 101%; Kansas City, Lawrence and Southern 58, 104%; Kansas City, St. Joseph and Council Bluffs, 78, 113%; Little Rock and Ft. Smith, 32%; do, 78, 96%; Leavenworth, Topeka and Southwestern 48, 73; Mexican Central, 20; do, 78, 74; do, inc., 20%; Marquette, Houghton and Ontonagon, 66%; do, pref., 114%; Massachusetts Central, 3%; do, 68, 21; Maine Central, 80; Metropolitan Passenger 78, 102%; New Mexico and Southern Pacific 78, 113; New York and New England 68, 105%; Oregon Short Line 68, 95%; Ogdensburg and Lake Champlain consol. 68, 98; Portsmouth, Gt. Falls and Conway, 30%; Rutland, 31; do, pref., 15%; do, 58, 63; Sonora 78, 105; Southern Kansas and Western 78, 109%; Toledo, Cincinnati and St. Louis, 5; Toledo, Delphos and Burlington 68, 8. E. div., 50; do, Branch inc., 12; Wisconsin Central, 17%; do, pref., 27; Brunswick Antimony, 13; Franklin Mining, 14; Huron, 1%; Napa Consol. Quicksilver, 3%; Osceola, 30; Pewabic, 9%.

Philadelphia.—Am. Steamship Co. 68, 106; Central Transp., 34; Hesstonville Passenger 1st, 101%; Huntington and Broad Top Mt. consol. 58, 88%; Nesquehoning Valley, 54; Northern Central 68, series B, 95%; do, 68, 109, 112%; Oil Creek 1st, 104; Philadelphia City 68, 1889, 117; do, 68, 1896, 129; do, 68, 1903, 133%; do, 48, 1885, 103; Philadelphia and Reading R. R. consol. mort., 58, 1st series, 87; second series 68; do, gen'l mort. 78, 101%; do, scrip, 105; do, adj. scrip, 85; do, consol. gold 68, 117%; do, debent., 68, 73; Philadelphia and Reading Coal and Iron debent., 78, 77; do, debent., 68, 1893, 69; Pennsylvania Canal 68, 87; Pennsylvania 4%, 94%; Philadelphia, Wilmington and Baltimore 48, 93%; People's Passenger 78, 86; Philadelphia, Germantown and Norristown, 106%; Snsq. Canal 78, 73; do, 68, 65; Shamokin Valley and Pottsville 78, 121%; Sunbury, Hazleton and Wilkesbarre 2d, 68, 29; West Jersey and Atlantic 68, 110%; West Chester and Philadelphia 78, 118; Warren and Franklin 78, 110%; West Jersey, 50; do, 68, 115. The latest quotations are: Pennsylvania State 58; new loan, 116%@117%; do, 48, old, 110@112; do, 48, new, 116@117; Philadelphia and Reading Railroad, 26%@26%; do, consol. mort. 78, reg., 125@126; do, gen'l mort. 68, coupon, 94@95; do, 78, 1893, 119@120; do, 78, new conv., 74@76; do, gen'l mort. 78, 101@101%; do, consol. mort. 58, 1st series, 86%@87%; do, 2d series, 67%@68%; United New Jersey R. R. and Canal, 189%@100%; Buffalo, Pittsburg and Western, 16%@17; Pittsburgh, Titusville and Buffalo 78, 94@94%; Camden and Amboy mort. 68, 1889, 112@113; Pennsylvania R. R., 60@60%; do, general mort. 68, coupon, 123@124; do, reg., 125@126; do, consol. mort. 68, reg., 110%@120%; Little Schuylkill R. R., 58%@59%; Schuylkill Navigation pref., 13@14; do, 68, 1882, 88@90; Elmira and Williamsport pref., 58@59; do, 58, 99@100; Lehigh Coal and Navigation, 38%@39; do, 68, 1884, 102@103; do, R. R. loan, 114@115; do, Gold Loan, 111@112; do, consol. 78, reg., 116%@117%; North Pennsylvania, 66%@

67; do, 68, 103@103%; do, 78, 119@—; do, 78, General mort. reg., 125@125%; Philadelphia and Erie, 19@—; do, 78, 112@113; do, 58, 104@104%; Minehill 62%@63%; Catawissa, 22@24; do pref., 50@—; do, new pref., 53@—; do, 78, 1900, 117%@—; Lehigh Valley, 64%@65%; do, 68, coupon, 120@121%; do, reg., 120%@121%; do, 78, reg., 133@134; do, consol. mort. reg., 121@121%; Fifth and Sixth streets (horse), —@200; Second and Third, 113@117; Thirteenth and Fifteenth, 75@80; Spruce and Pine, 42%@48; Green and Coates, 75@81; Chestnut and Walnut, 85@93; Germantown, 66@70; Union, 110@—; West Philadelphia, 135@—; People's, 6%@—; Continental, 100@103.

Baltimore.—Atlanta and Charlotte, 61; do, 1st, 104%; Atlantic coal, 0.91; Baltimore City 68, 1902, 125; do, 68, 1886, 106%; do, 68, 1890, 113%; do, 58, 1016, 122; do, 58, 1885, 101%; do, 58, 1920, 109%; Charlotte, Columbia and Augusta, 30; do, 2d, 102%; Columbia and Greenville, 1st, 101%; do, ad, 73; Maryland Defense 68, 103%; Northern Central 58, series A, 99%; Norfolk Water 88, 132; Ohio and Mississippi, Springfield div. 1st, 115; Virginia and Tennessee 88, 124%; do, 68, 101; Virginia Midland 1st mort., 112; do, 2d mort., 108; do 5th mort., 95%; Wilmington, Columbia and Augusta, 110. The latest quotations are: Atlanta and Charlotte 1st, 104%@104%; Baltimore and Ohio, 200@205; do, 68, 1885, 104%@—; Baltimore City 68, 1884, 101%@—; do, 68, 1886, 106%@—; do, 68, 1891, 115@116; do, 68, 1900, 124@—; do, 58, 1885, 101%@—; do, 58, 1916, 122@—; Columbia and Greenville 1st, 1016, 101%@101%; Charlotte, Columbia and Augusta 2d, 102%@102%; Canton 68, gold, 108%@110; Marietta and Cincinnati 78, 1891, 130%@131%; do, 78, 1896, 100%@101%; do, 88, 1890, 53%@54; Northern Central, 54%@54%; do, 68, 1885, 103%@103%; do, 68, 1894, gold, 113%@113%; Virginia Midland 5th mort., 95%@96; do, inc., 50@56; Virginia consol., 51%@51%; do, 1c-408, 39%@40%; do, 38, 49%@50%; Western Maryland 68, guar. by Washington county, 111%@113.

Street Railways of Boston.

We have before us a comparative statement of the working of the several street railroads of Boston for the year ending September 30, 1882, taken from the reports to the Legislature of 1883, from which we learn that the average receipts per mile run have been as follows:

Middlesex Railroad	32	8-100 cents.
Union Railroad	24	82-100 "
Lynn and Boston Railroad	33	59-100 "
South Boston Railroad	33	45-100 "
Metropolitan Railroad	30	66-100 "
HIGHLAND RAILROAD	29	98-100 "

The average expenses per mile run during the same time were:

Middlesex Railroad	23	56-100 cents.
Union Railroad	26	35-100 "
Lynn and Boston Railroad	29	66-100 "
South Boston Railroad	28	42-100 "
Metropolitan Railroad	26	73-100 "
HIGHLAND RAILROAD	25	17-100 "

And the net profits per mile run were:

Middlesex Railroad	6	52-100 cents.
Union Railroad	1	53-100 " loss.
Lynn and Boston Railroad	3	93-100 "
South Boston Railroad	5	3-100 "
Metropolitan Railroad	3	93-100 "
HIGHLAND RAILROAD	4	81-100 "

The average number of passengers per round trip has been as follows:

Middlesex Railroad	41	
Union Railroad	38	
Lynn and Boston Railroad	42	
South Boston Railroad	41	
Metropolitan Railroad	38	
HIGHLAND RAILROAD	40	

ILLINOIS CENTRAL RAILROAD COMPANY. FORTY-FIRST SEMI-ANNUAL CASH DIVIDEND.

The Board of Directors have declared a dividend of THREE AND ONE-HALF per cent in cash, payable March 1, 1883, to the shareholders of the ILLINOIS CENTRAL RAILROAD COMPANY as registered at the close of business on Feb. 10. They have also declared an extra dividend of ONE-HALF OF ONE per cent in cash, payable at the same time to said shareholders, out of the earnings of the SOUTHERN DIVISION for the six months ending Dec. 31, 1882. The stock transfer-books will be closed from and after Feb. 10, until the morning of March 5.

L. V. F. RANDOLPH, Treasurer.

NEW YORK, Jan. 18, 1883.

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RAILROAD AND CANAL DIVIDEND STATEMENT.

Showing the amount of Stock Outstanding, the Dividend Periods and the date of last Dividend.

Marked thus(*) are leased roads.	Stock outstanding.	Divide'd Periods.	Last Dividend Payable.	Marked thus(*) are leased roads.	Stock outstanding.	Divide'd Periods.	Last Dividend Payable.	Markedthus(*) are leased roads.	Stock outstanding.	Divide'd Periods.	Last Dividend Payable.	
Albany and Susq*.	2,500,000	semi-an	Jan. '83 2	Little Miami.....	50	4,637,300	q'arterly	Dec. '82 2	Ware River*.	750,000	semi-an	Jan. '83 3 1/2
Ath., Top. & S. Ferro	54,000,000	q'arterly	Feb. '83 1 1/2	Little Rock & Ft. S.	100	4,096,135	July '81 10	Warren (N.J.)	1,800,000	semi-an	Oct. '82 3 1/2
Atlanta and W. Pointico	1,232,200	semi-an	Aug. '82 6	Little Schuylkill*.	50	2,646,100	semi-an	Jan. '83 3 1/2	Warwick Valley	340,000	semi-an	July '82 2 1/2
Atlantic and St. Law*.	5,840,000	semi-an	Sept. '82 3	Long Island.....	50	10,000,000	q'arterly	Feb. '83 1	Westchest & Phil. prefco	281,300	semi-an	July '82 2
Augusta and Savan'.	1,022,000	semi-an	Dec. '82 3 1/2	Louisville & Nashv*.	100	25,000,000	semi-an	Feb. '82 3	West Jersey	1,359,750	semi-an	Sept. '82 3
Avon, Genesee & Mt*.	225,000	semi-an	Jan. '82 3	Lowell & Andover	100	500,000	semi-an	Jan. '83 3 1/2	Wilmington & Weldn*.	1,456,200	semi-an	Jan. '83 3
Baltimore and Ohio.	14,792,566	semi-an	Nov. '82 5	Lykens Valley.....	100	600,000	q'arterly	Jan. '82 2 1/2	Wil., Col., & Aug.	960,000	semi-an	Jan. '83 3
" " pref.	5,000,000	semi-an	Jan. '82 3	Manchester & Law.	100	1,000,000	semi-an	Nov. '82 5	Winchester & Poto'c*.	180,000	semi-an	Jan. '83 3
Washington Br.	1,650,000	semi-an	Nov. '82 5	Manhattan.....	100	13,000,000	Winchester & Strasb*.	74,700	semi-an	Jan. '83 3	
Berkshire*.	600,000	q'arterly	Apr. '82 1 1/2	" " 1st pref.	6,500,000	q'arterly	Jan. '83 1 1/2	Worcester & Nashua.	1,769,800	semi-an	Jan. '83 3	
Boston and Albany*.	20,000,000	q'arterly	Dec. '82 2	" " 2d pref.	6,500,000	q'arterly	Jan. '83 1 1/2	Ware River*.	750,000	semi-an	Jan. '83 3	
Bos. & N.Y. Airline pf.	2,795,227	q'arterly	June '82 1	Marq. Hout. & Ont.	100	2,306,600	Warren (N.J.)	1,800,000	semi-an	Oct. '82 3 1/2	
Bos., Cl., F. & N.B. pref.	1,750,100	semi-an	Oct. '82 3 1/2	Massawippi*.	100	2,259,026	semi-an	Warwick Valley	340,000	semi-an	July '82 2 1/2	
Bos., Conc. & Mont. pf*.	800,000	semi-an	Nov. '82 3	Metropolitan	100	400,000	semi-an	Westchester & Phil. prefco	281,300	semi-an	July '82 2	
Boston and Lowell.	3,940,000	semi-an	Jan. '82 3 1/2	Michigan Central.	100	6,500,000	q'arterly	West Jersey	1,359,750	semi-an	Sept. '82 3	
Boston and Maine.	6,921,274	semi-an	Nov. '82 4	Middlesex Central.	100	18,738,204	Wilmington & Weldn*.	1,456,200	semi-an	Jan. '83 3	
Boston & Providence.	4,000,000	semi-an	Nov. '82 4	Mill Creek & Minehill*.	50	280,000	semi-an	Wil., Col., & Aug.	960,000	semi-an	Jan. '83 3	
Attleborough Br.	131,700	semi-an	Jan. '83 3 1/2	Mill Hill & Schuyl. Hav*.	50	323,000	semi-an	Winchester & Poto'c*.	180,000	semi-an	Jan. '83 3	
Bos., Revere B & Lynn*.	419,400	semi-an	Jan. '83 3	Missouri Pacific.	100	4,022,500	semi-an	Winchester & Strasb*.	74,700	semi-an	Jan. '83 3	
Buffalo, N.Y. & Erie*.	950,000	semi-an	Dec. '82 3	Mobile & Montgomery.	100	2,676,325	q'arterly	Worcester & Nashua.	1,769,800	semi-an	Jan. '83 3	
Buff., Pitts. & West. pf.	1,457,000	.....	Morris & Essex.	50	3,022,517	semi-an	Ware River*.	750,000	semi-an	Jan. '83 3	
Camden & Atlantic.	377,400	q'arterly	Nov. '82 3	Mt Carbon & Pt. Carbon.	50	15,000,000	semi-an	Warren (N.J.)	1,800,000	semi-an	Oct. '82 3 1/2	
" " pref.	880,650	q'arterly	Nov. '82 4	Nashua and Lowell.	100	282,350	Warwick Valley	340,000	semi-an	July '82 2 1/2	
Camden & Burl. Co.	381,925	semi-an	Jan. '83 3	New London North*.	100	800,000	semi-an	Westchester & Phil. prefco	281,300	semi-an	July '82 2	
Canada Southern.	15,000,000	.....	Nashua & Rochester.	100	1,305,800	semi-an	West Jersey	1,359,750	semi-an	Sept. '82 3	
Cape May & Millville*.	447,000	semi-an	Nashv. & Decatur.	100	1,827,000	semi-an	Wilmington & Weldn*.	1,456,200	semi-an	July '82 2		
Cataswissa*.	50	annual	Oct. '82 2 1/2	Nash., Chat. & St.Louis.	25	2,169,800	semi-an	Wil., Col., & Aug.	960,000	semi-an	Sept. '82 3	
" " pref.	2,200,000	semi-an	Naugatuck.	100	2,000,000	semi-an	Winchester & Poto'c*.	180,000	semi-an	Jan. '83 3		
Camden & Susq*.	50	semi-an	Nequehoning Val*.	50	1,300,000	semi-an	Winchester & Strasb*.	74,700	semi-an	Jan. '83 3		
Cayuga and Susq*.	50	semi-an	N. Castle & Beaver Val*.	50	600,000	q'arterly	Worcester & Nashua.	1,769,800	semi-an	Jan. '83 3		
Cedar Rapids & Mo. B*.	6,850,400	q'arterly	New London North*.	100	1,500,000	q'arterly	Ware River*.	750,000	semi-an	Jan. '83 3		
" " pref.	769,600	semi-an	N. Y. Cen. & Hud. R.	100	894,28,330	q'arterly	Warren (N.J.)	1,800,000	semi-an	Oct. '82 3		
Central of Georgia.	7,500,000	semi-an	N. Y. and Harlem.	100	7,950,000	q'arterly	Warwick Valley	340,000	semi-an	May '82 6		
Central of New Jersey.	18,563,200	q'arterly	" City Line.	100	1,000,000	.....	Westchester & Phil. prefco	281,300	semi-an	Oct. '82 3	
Central Ohio*.	50	semi-an	City Line.	100	1,000,000	.....	West Jersey	1,359,750	semi-an	July '82 2	
" " pref.	411,550	semi-an	C. Ind., St. L. & Chi.	100	10,000,000	.....	Wilmington & Weldn*.	1,456,200	semi-an	Sept. '82 3	
Central Pacific.	50,275,300	semi-an	C. N. Y., Lack. & West.	100	77,087,600	.....	Wil., Col., & Aug.	960,000	semi-an	Oct. '82 3	
Cheeshire preferred.	2,155,300	semi-an	N. Y., Lake Erie & West.	100	7,987,500	.....	Winchester & Poto'c*.	180,000	semi-an	July '82 2	
Chicago and Alton.	11,181,741	semi-an	N. Y., H. H. Hart.	100	15,000,000	.....	Winchester & Strasb*.	74,700	semi-an	May '82 6	
" " pref.	2,245,400	semi-an	N. Y., Prov. & Boston.	100	3,000,000	q'arterly	Winchester & Nashua.	1,769,800	semi-an	Oct. '82 3		
Chi., Burl. & Quincy.	60,508,105	q'arterly	Niagara & Canand*.	100	1,000,000	.....	Winchester & Strasb*.	74,700	semi-an	July '82 2	
Chi., Iowa & Nebras*.	3,916,000	semi-an	North Carolina*.	100	3,000,000	.....	Winchester & Strasb*.	74,700	semi-an	Sept. '82 3	
Chi., Mil. & St. Paul.	20,404,261	semi-an	North. Eastern (S.C.) prefco	50	1,000,000	.....	Winchester & Strasb*.	74,700	semi-an	Oct. '82 3	
" " pref.	14,401,483	semi-an	Old Colony.	100	40,000,000	.....	Winchester & Strasb*.	74,700	semi-an	July '82 2	
Chi., N. Western.	14,088,257	semi-an	Oregon & Transcont'l.	100	7,333,800	.....	Winchester & Strasb*.	74,700	semi-an	Sept. '82 3	
" " pref.	21,525,353	q'arterly	Oregon & Transcont'l.	100	13,000,000	.....	Winchester & Strasb*.	74,700	semi-an	Oct. '82 3	
Chi., R. I. & Pacific.	41,600,000	q'arterly	Oregon & Transcont'l.	100	7,333,800	.....	Winchester & Strasb*.	74,700	semi-an	July '82 2	
Chi., and West Mich.	6,151,000	semi-an	Oregon & Transcont'l.	100	13,000,000	.....	Winchester & Strasb*.	74,700	semi-an	Sept. '82 3	
Chi., St. P., M. & O. pref.	10,390,000	q'arterly	Oswego & Syracuse.	100	1,320,400	.....	Winchester & Strasb*.	74,700	semi-an	Oct. '82 3	
Cin., Ham. & Dayton.	3,500,000	semi-an	Panama.	100	7,000,000	.....	Winchester & Strasb*.	74,700	semi-an	July '82 3	
C. Ind., St. L. & Chi.	6,000,000	q'arterly	Paterson & Hudson*.	100	6,300,000	.....	Winchester & Strasb*.	74,700	semi-an	Sept. '82 3	
Cin., Sand. & Clev. pf.	429,037	semi-an	Paterson & Ramapo.	100	248,000	.....	Winchester & Strasb*.	74,700	semi-an	Oct. '82 3	
Clev., Col., Cin. & Ind. pf.	14,091,800	.....	Pember & Highst. h*.	50	342,150	.....	Winchester & Strasb*.	74,700	semi-an	July '82 3
Clev., and Pittsburgh*.	11,244,336	q'arterly	Pennsylvania.	100	50,000,000	.....	Winchester & Strasb*.	74,700	semi-an	Sept. '82 3	
Columbus & Xenia*.	1,786,200	q'arterly	Pennsylvania.	100	1,000,000	.....	Winchester & Strasb*.	74,700	semi-an	Oct. '82 3	
Col., Hock. Val. & Tol.	10,316,500	.....	Pennsylvania.	100	1,000,000	.....	Winchester & Strasb*.	74,700	semi-an	July '82 3
Concord and Ports.	1,500,000	semi-an	Portl., Sac. & Portmcs.	100	1,500,000	q'arterly	Winchester & Strasb*.	74,700	semi-an	Sept. '82 3		
Conn. & Passump. Ry.	2,244,400	semi-an	Providence & Worcester.	100	2,000,000	.....	Winchester & Strasb*.	74,700	semi-an	Oct. '82 3	
Connecticut River.	2,100,000	semi-an	Rensselaer & Saratog.	100	7,000,000	.....	Winchester & Strasb*.	74,700	semi-an	July '82 3	
Cumberland Valley.	1,292,950	q'arterly	Richmond & Danv.	100	5,000,000	q'arterly	Winchester & Strasb*.	74,700	semi-an	Sept. '82 3		
" 1st pref.	241,900	semi-an	Richmond & Petersbro.	100	1,000,000	.....	Winchester & Strasb*.	74,700	semi-an	Oct. '82 3	
" 2d pref.	243,000	semi-an	Roch. & Genesee Val*.	100	555,200	.....	Winchester & Strasb*.	74,700	semi-an	July '82 3	
Danbury & Norwalk.	600,000	.....	Rome Water & Odgenar.	100	5,293,900	.....	Winchester & Strasb*.	74,700	semi-an	Sept. '82 3
Dayton and Mich.	2,402,573	semi-an	Rutland preferred.	100	4,000,000	.....	Winchester & Strasb*.	74,700	semi-an	Oct. '82 3	
" pref.	1,212,250	q'arterly	Sputrydu'l'l & Pt. M.	100	989,000	.....	Winchester & Strasb*.	74,700	semi-an	July '82 3	
Delaware*.	25	.....	S. L. Alt. & T. Haute.	100	2,300,000	.....	Winchester & Strasb*.	74,700	semi-an	Sept. '82 3
Del. & Bound Brook*.	1,668,940	semi-an	" pre.	100	2,668,406	.....	Winchester & Strasb*.	74,700	semi-an	Oct. '82 3	
Del., Lack. & Western.	1,652,000	q'arterly	St. L. & Fran. 1st prefco.	100	4,500,000	.....	Winchester & Strasb*.	74,700	semi-an	July '82 3	
Denver & Rio Grande.	26,200,000	q'arterly	St. L. & Jac'ville & Chic.	100	21,459,921	.....	Winchester & Strasb*.	74,700	semi-an	Sept. '82 3	
Detroit, Lans. & Nor.	1,825,600	q'arterly	" pre.	100	1,293,333	.....	Winchester & Strasb*.	74,700	semi-an	Oct. '82 3	
" pref.	2,505,380	semi-an	St. P. & Duluth prefco.	100	4,705,000	.....	Winchester & Strasb*.	74,700	semi-an	June '82 1	
Dubuque & Sioux City*.	5,000,000	semi-an	Schuykill & Valley*.	100	576,050	.....	Winchester & Strasb*.	74,700	semi-an	June '82 1	
East Pennsylvania*.	1,709,550	semi-an	Seaboard & Roanoke.	100	1,229,600	.....	Winchester & Strasb*.	74,700	semi-an	June '82 1	
East Mahanoy*.	50	semi-an	Shamokin V. & Pottsv.	50	669,450	Winchester & Strasb*.	74,700	semi-an	June '82 1		
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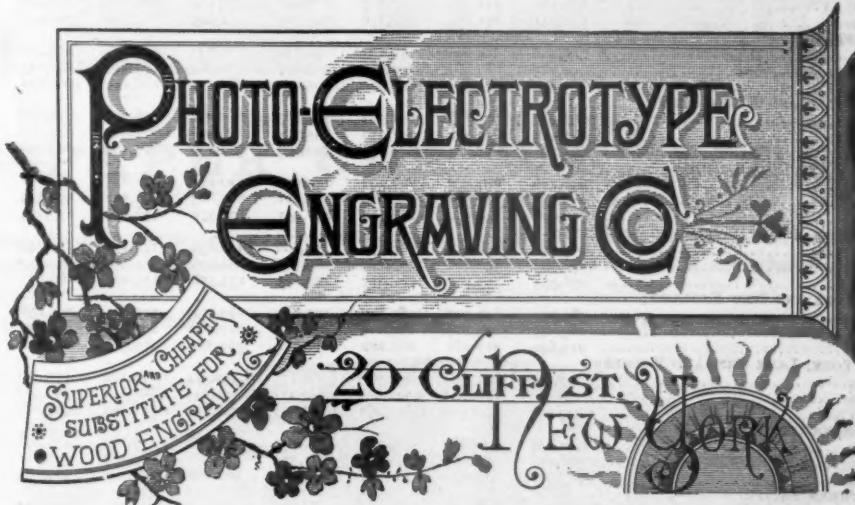
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RAILROAD EARNINGS. MONTHLY.

BURL., CEDAR RAP. & NORTHERN:	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1880.....	184,316	165,170	188,325	141,652	149,504	153,378	143,432	160,160	179,804	204,991	189,330	193,419	2,053,484
1881.....	167,750	124,510	148,551	184,680	165,620	205,912	174,351	209,112	221,801	221,748	201,180	232,812	2,259,037
1882.....	253,803	225,631	224,107	178,304	199,278	211,257	196,476	224,921	261,439	300,155	278,439	246,002	2,800,079
CENTRAL PACIFIC:													
1880.....	1,200,615	1,070,487	1,373,438	1,356,716	1,778,488	1,724,930	1,840,067	1,973,438	1,994,997	1,120,229	2,199,466	1,905,221	20,508,113
1881.....	1,602,907	1,454,218	1,709,558	1,872,370	2,091,411	2,159,383	1,809,346	2,088,519	2,185,303	2,507,857	2,297,971	2,225,179	24,094,101
1882.....	1,839,469	1,720,675	1,969,737	2,054,687	2,342,298	2,229,105	2,070,648	2,350,557	2,495,445	2,424,549	2,242,000	1,968,000	25,713,150
CHEAPFAKE AND OHIO:													
1880.....	209,335	198,681	222,762	221,559	199,443	214,352	238,236	259,110	247,303	311,820	240,795	218,009	2,674,308
1881.....	162,540	184,389	226,479	227,343	252,235	241,135	225,096	262,858	247,144	236,306	230,022	203,562	2,702,762
1882.....	210,455	209,708	208,881	267,454	255,939	206,753	306,831	371,175	332,219	347,882	287,850	.....	.....
CHICAGO AND ALTON:													
1880.....	534,054	497,013	626,473	548,661	616,128	617,524	708,906	761,120	767,349	785,199	696,776	574,695	7,718,198
1881.....	487,890	461,641	529,915	558,190	548,556	635,860	676,205	769,751	774,790	771,844	672,380	646,812	7,557,741
1882.....	570,447	530,480	584,483	561,787	553,412	613,886	671,537	800,624	881,109	812,032	748,151	699,323	8,211,988
CHICAGO AND NORTHWESTERN:													
1880.....	1,154,183	1,131,683	1,361,725	1,994,573	1,875,608	1,671,177	1,609,686	1,767,938	2,020,245	2,105,217	1,855,622	1,477,902	19,416,079
1881.....	1,240,664	603,200	1,178,795	1,474,612	1,879,006	2,306,440	1,983,032	2,315,104	2,292,698	2,341,098	2,019,028	1,855,477	21,840,209
1882.....	1,644,935	1,474,176	1,672,931	1,668,741	2,110,947	2,022,700	2,025,736	2,099,755	2,497,053	2,592,100	2,069,287	1,718,379	23,828,973
CHICAGO, BURLINGTON AND QUINCY:													
1880.....	1,432,740	1,411,870	1,732,518	1,489,894	1,909,627	1,682,956	1,773,643	1,834,321	1,862,285	1,934,762	1,837,860	1,552,018	20,454,494
1881.....	1,307,948	1,034,821	1,418,149	1,574,371	1,679,455	2,083,303	1,888,358	2,173,493	2,262,981	2,031,133	1,905,490	21,324,150	.....
1882.....	1,058,834	1,457,300	1,506,217	1,530,838	1,505,261	1,437,174	1,625,006	2,086,858	2,186,000	2,270,444	2,199,421	.....	.....
CHICAGO, MILWAUKEE AND ST. PAUL:													
1880.....	764,398	738,749	900,675	871,041	1,134,745	1,037,958	1,026,708	991,297	1,257,677	1,493,620	1,472,037	1,397,308	13,086,119
1881.....	990,847	682,717	916,989	1,259,946	1,558,491	1,729,811	1,568,706	1,678,361	1,644,676	1,591,052	1,560,597	1,854,269	17,025,456
1882.....	1,435,000	1,377,000	1,561,000	1,518,000	1,629,000	1,620,000	1,405,000	1,545,000	1,950,000	2,251,000	2,072,000	1,904,000	20,386,999
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA:													
1880.....	193,827	173,078	259,783	259,208	232,146	218,093	236,995	251,013	300,833	342,052	342,894	312,173	3,122,097
1881.....	257,786	158,594	251,648	261,211	350,124	404,562	383,202	385,586	373,370	379,299	392,921	433,615	3,081,206
1882.....	307,498	315,100	405,779	356,558	406,420	363,109	331,480	394,555	482,997	517,595	375,796	4,973,052	.....
CINCINNATI, INDIANAPOLIS, ST. LOUIS AND CHICAGO:													
1880.....	155,697	172,541	198,220	168,199	186,995	200,332	204,138	233,478	343,627	339,881	209,014	198,254	2,412,185
1881.....	182,523	171,511	191,005	183,710	191,066	192,299	177,161	229,858	228,653	221,320	211,014	195,809	2,269,616
1882.....	200,042	186,879	208,066	204,269	199,110	195,948	209,564	259,379	219,732	189,955	208,426	2,645,530	.....
DENVER AND RIO GRANDE:													
1880.....	124,759	126,022	160,883	164,882	193,925	205,455	273,132	400,133	406,583	473,318	408,562	349,196	3,478,007
1881.....	307,476	317,081	398,493	433,111	514,767	584,230	548,284	606,193	589,287	547,555	624,728	620,681	.....
1882.....	491,914	412,928	535,055	559,937	614,298	537,462	495,797	574,040	595,306	512,965	626,728	634,657	.....
HANNIBAL AND ST. JOSEPH:													
1880.....	176,079	166,065	216,061	206,356	206,353	191,317	179,396	224,313	238,081	233,448	242,214	207,147	279,635
1881.....	154,401	132,874	176,356	190,812	172,950	190,740	201,893	210,840	213,013	215,103	180,376	180,967	2,561,366
1882.....	125,601	152,691	162,475	150,481	151,999	147,526	184,609	254,569	239,732	238,563	249,252	239,891	2,303,388
ILLINOIS CENTRAL:													
1880.....	595,212	613,806	613,008	535,732	665,120	681,736	724,095	732,755	806,836	880,211	783,120	673,182	8,304,812
1881.....	631,281	524,499	557,789	602,493	673,259	720,004	808,407	828,847	815,238	737,218	763,475	858,397	.....
1882.....	746,744	686,228	686,040	674,749	663,746	752,251	813,600	828,238	863,525	752,144	697,051	8,831,281	.....
INDIANA, BLOOMINGTON AND WESTERN:													
1880.....	80,498	89,690	116,185	90,374	85,733	106,054	103,438	116,732	121,343	96,621	104,619	1,233,079	.....
1881.....	90,283	83,261	192,085	203,677	200,064	190,846	190,125	272,174	247,332	225,078	200,450	192,622	2,487,569
1882.....	195,824	175,755	206,235	205,934	205,554	186,133	207,612	276,814	273,100	269,646	256,998	205,212	2,641,675
LOUISVILLE AND NASHVILLE:													
1880.....	674,455	575,035	612,993	563,883	655,014	976,229	772,538	827,889	931,911	1,000,327	953,087	949,185	9,491,346
1881.....	812,118	805,124	947,959	855,704	828,726	1,227,885	817,135	868,192	951,566	1,065,223	1,153,779	1,144,361	.....
1882.....	964,527	960,315	1,068,834	953,603	958,130	1,215,490	1,633,765	1,043,912	1,114,513	1,215,932	1,192,390	1,221,215	12,981,140
MOBILE AND OHIO:													
1880.....	250,116	204,095	168,302	140,091	129,248	121,855	131,621	140,593	184,247	264,714	251,368	287,372	2,273,622
1881.....	224,347	186,708	190,916	134,551	145,803	136,517	135,549	160,789	210,262	256,924	262,086	258,812	2,403,224
1882.....	159,676	158,590	148,166	141,957	134,378	135,184	135,174	137,475	137,475	276,433	295,110	307,643	2,179,666
NASHVILLE, CHATTANOOGA AND ST. LOUIS:													
1880.....	205,634	191,154	169,457	155,466	158,839	144,130	151,594	169,326	167,473	178,266	182,087	175,966	2,049,484
1881.....	178,143	190,866	207,710	183,525	184,430	154,549	150,430	168,317	179,979	172,121	152,059	173,127	2,075,943
1882.....	156,994	159,961	161,005	154,155	135,556	119,074	160,991	168,304	168,999	180,319	181,336	261,082	3,418,160
NEW YORK AND NEW ENGLAND:													
1880.....	164,233	149,907	183,485	179,689	183,701	219,891	205,056	249,885	235,642	215,491	210,896	198,108	2,396,302
1881.....	189,749	212,019	216,913	217,185	213,518	246,821	280,524	299,573	261,200	240,764	240,063	280,525	2,809,255
1882.....	213,840	217,261	265,223	261,044	289,722	295,392	289,441	340,490	338,347	310,145	276,183	.....	.....
NEW YORK, LAKE ERIE AND WESTERN:													
1879.....	1,147,173	1,207,391	1,356,780	1,372,755	1,350,574	1,230,419	1,273,533	1,450,223	1,492,497	1,713,697	1,515,		

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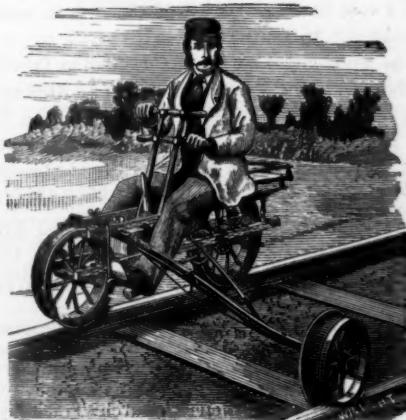
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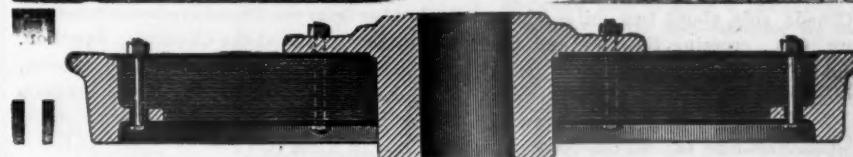
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OUR CANADIAN LETTER.

[From our Special Correspondent.]

THE OTTAWA, WADDINGTON AND NEW YORK RAILROAD AND BRIDGE CO.—ITS IMPORTANCE AS A CONNECTING LINE—RAILROAD NOTES, ETC.

THE OTTAWA, WADDINGTON AND NEW YORK RAILROAD AND BRIDGE COMPANY.

THIS company was chartered in May, 1882, by the Dominion Parliament, the main object of the promoters being to secure a direct route from Ottawa to New York, Boston and the coal fields of New York and Pennsylvania, with a bridge over the St. Lawrence River from a point on the Canada side, about two miles above Morrisburg, Ont., crossing the river and Ogdens Island to Waddington—there now being no bridge connecting the two countries between Niagara River and Montreal. The line, with the present connections, besides the great advantage of a bridge over the St. Lawrence, shortens the distance to New York twenty-five miles; and as two roads are projected to connect at Canton—one from Schenectady and one from North Creek, one or both of which will shortly be commenced—the distance between Ottawa and New York will be further reduced fifty-three or eighty-five miles, according to the line which may be constructed. The distance from Ottawa to New York will then be about 372 miles, all rail, and without change of cars; so that parties leaving Ottawa in the morning can reach New York the same evening, and vice versa. This cannot be done at present, and it is a great drawback to trade and travel between the great commercial metropolis of the United States and the capital of the Dominion of Canada. Since the company received its charter they have been awaiting the movements of the New York and Canada Bridge Co., organized to join the Canadian company in the construction of the St. Lawrence River bridge. The State charter for the American Bridge Company was not ratified by Congress until the latter part of July last. Immediately thereafter the Ottawa and Waddington Co. placed their engineers on the road, made a careful survey and soundings of the St. Lawrence and Ottawa River bridge sites, and surveyed and located the line of railway; and on the 15th of January, 1883, the plan and profile of the railway and the plans of the bridges were completed, and the whole line and bridges are now ready for contract and construction. It is not easy in a limited article to describe the advantages to be derived from the construction of the proposed line, which it is claimed will, with its connections, rank next in importance in

Canada to the Canadian Pacific and Grand Trunk railways.

The company have taken powers and propose to commence their railway on the Quebec side of the Ottawa River, within the limits of the city of Hull, forming a junction with the Quebec, Montreal and Ottawa—or Canadian Pacific Railway, as it is now called—running to Montreal, the Gatineau Valley, the great lumber and mining railway, and the Pontiac and Pacific Junction (which taps the Canadian Pacific at Pembroke), forming the shortest route from Sault Ste. Marie and the Northwest to Ottawa. By this move the company secure the lumber of the large mills owned by the Gilmours in Hull and Chelsea, Eddy's mills, the Duchesne or Conroy mills, and the traffic of the Gatineau Valley and the Pontiac and Pacific, and affording those lines the shortest through route, to connect with the railway system of New York State; crossing the Ottawa River to the St. Lawrence and Ottawa Railway depot on Sussex street, Ottawa, with a railway and wagon bridge, they acquire and utilize the branch of the St. Lawrence and Ottawa, to the Chaudière Junction, taking in McLaren's mills on their way; and crossing the Canada and Atlantic less than a mile from the city, they take from that line the lumber from the Chaudière in the same way as they secure that at the Chaudière Junction, coming out on the St. Lawrence and Ottawa, which has a line running in from the Junction to the Chaudière, which will be their main and daily line in when this road is built. In fact it is a scheme devised to catch all the freight and passenger traffic centering at Hull and Ottawa, going to the St. Lawrence and thence East and West by the Grand Trunk and South over the St. Lawrence bridge to New York, Boston and the coal fields. This railway between Ottawa and Morrisburg passes through four of the best townships in Eastern Canada, with a local traffic that will exceed in the forty-five miles of road between Ottawa and Morrisburg one hundred thousand dollars a year, passing as it does through the thriving villages of Metcalf, Vernon, Ormond, West Winchester, the celebrated Winchester Springs, Bell's Corners and Morrisburg. Even the small saw mills along the line turn out over 8,000,000 feet of lumber annually, which, with the eight hundred thousand millions manufactured in the Ottawa country, will tax the carrying capacity of several railways. Crossing the St. Lawrence to Waddington, N. Y., a short road of sixteen and one-half miles is projected to Canton, and crosses the Ogdensburg and Lake Champlain Railroad about nine miles from Waddington. Once at Canton, the road from Ottawa to New York is shortened by twenty-five miles; and, as before stated, will likely be further shortened from fifty to eighty miles. It is claimed for this railway, (1) That it will be the shortest route between Ottawa and New York; and with the bridge and all rail, enabling passengers to go through in fourteen hours without change of cars, it will greatly increase the passenger traffic between the two places. (2) That it will be the great line for sawed lumber, phosphates, iron, and minerals of every description from the Ottawa region to New York, Boston and Pennsylvania. (3) It is the shortest and best line to the coal fields

even from Montreal via the Grand Trunk. It is the shortest route from Sault Ste. Marie and the Northwest to New York, and it is the shortest route from Toronto to New York via the Grand Trunk and crossing at Morrisburg; and—as freight and passenger traffic will always find their proper level—all roads running East and West between Ottawa and the St. Lawrence must switch on to their road and cross their bridge. As to the road's paying within a few years, Ottawa will become the center of the railway system of Canada.

The managing provisional director, John W. Imlay, Esq., and the secretary, Augustus Keefer, Esq., are now corresponding with English capitalists, and a prominent engineer is here in the interests of these gentlemen inquiring into the matter, and we hope to have the pleasure of announcing that satisfactory arrangements have been made.

Another important power has been granted the Ottawa, Waddington and New York Railroad and Bridge Company, which is fully explained hereunder.

A STEAMSHIP LINE.

The company have also taken power to construct and charter, purchase, own and navigate steam vessels and other craft on any of the lakes and rivers of Canada; and as the Canadian Pacific Railway will not be built from Thunder Bay on the north shore of Lake Superior for five years, they propose to put on a line of steamers from Thunder Bay to Morrisburg or Waddington to carry the wheat, etc. from the Northwest, returning lumber to the West.

RAILROAD AND OTHER NOTES.

Work on the removal of the Point Frederick shoal at Kingston Harbor will be resumed shortly.

The St. Lawrence and Ottawa Railway Co. are raising the trestle work of all bridges along their line seven feet above the top of the cars.

Manning & McDonald are making good progress on the Canal and lock work at Finelon Falls.

The Murray Canal will cost over \$850,000, and a vote for \$200,000 will be asked from next Parliament, to continue the work.

The wooden bridge on the Canadian Pacific Railway over the Mississippi River at Almonte was removed on the 28th ult., and replaced by an iron structure, consisting of ten spans. The time occupied in removing the old bridge and completing the new one was only twenty hours.

Next July the Kingston and Pembroke will be opened to Pembroke. This will give the Canadian Pacific another outlet via Kingston.

A NEW ENTERPRISE.

There is a large field in Canada for Americans and other enterprising men, and the American Railway Construction Company of Chicago, aware of the fact, have opened an agency for the introduction of their Monarch Track-laying Machine, which, as a practical and scientific machine, is unequalled by any other. The company are composed of gentlemen of high standing, and their new enterprise will no doubt be successful.

The Portage and Westbourne will push their road through vigorously with their capital increased to \$5,000,000, and a land grant of 6,400 acres per mile which the Government promises for extending the road to Prince Albert. They intend immediate operations. W.

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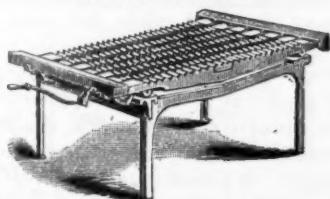
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Practical Shaking Grate Bar,

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The W. Ryder Double-Acting Grate Bars are so constructed as to rest upon a frame with friction rollers, and by means of a lever attached to the front rocking bar, a reverse or reciprocal motion is produced in each bar which effectually breaks up the clinkers, and removes all the ashes from the bottom of the furnace.

By this means we get the largest percentage of circulation of air, which keeps the bars cool and prevents them from burning or warping. There is also fully ten per cent of fuel saved, as it does away with the necessity of opening the furnace door and shaking the fire, and thus preventing large volumes of cold air rushing in and producing sudden expansions and contractions, frequently blistering the bottom of the boiler.

This bar has two very superior qualities which no shaking grate ever possessed. The first is a large friction roller at each end of the bar, thus enabling it to be moved back and forth with the greatest ease, though the bar be ever so large and heavy. The second is the header at the end of every bar, thus absolutely protecting the bar from all obstructions of coal and clinkers that otherwise might get at the end of the bar and stop its working. This header also affords plenty of expansion and contraction room for the bars. The first set of these bars ever made has been in constant use for some four and one-half years, without any expense except first cost, and the party using them prefers them to any other bar in use.



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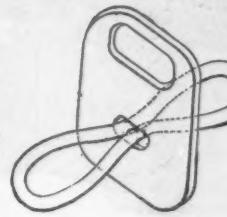
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Patented August 29, 1882.



The guide is manipulated by means of the handle at the upper part, extending far enough above the draw-head to prevent danger of the hand being crushed while coupling cars, and can be used in any place where an ordinary link is used.

The guide plate is made of one-quarter inch iron, ten inch by twelve inch—including the handle—and weighs less than six pounds.

For further particulars address,
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PROPRIETORS - JENKINS PATENT VALVES, PACKING, &c.
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Improved Railroad-Car Axles.



MR. J. R. BAKER, of Jersey City, N. J., has patented certain inventions which are of great importance to the railway and traveling public. They relate to a question which was one of the most important of those discussed before the Master Car Builders' Convention in New York City, June, 1881, namely, that of journal bearing. At the convention of the succeeding year, held in Philadelphia, Baker's Patent Universal Car-Axle Joint and Self-Adjusting Bearing and Patented Automatic Lid-Lock were exhibited and cordially approved. Since, as before that time, the inventor has received many flattering proofs of the value set upon his improvements

inside of the oil box, the upper part bearing perfectly upon the lower. This mode of hanging allows of an independent motion of the truck, by which it accommodates itself to any inequality of the rails, saving the wear of both, and avoiding jolting. Free play is allowed for a limited distance in almost any direction, and the torsion strain so destructive to the running gear as well as the rails, is wholly avoided. As the friction is diminished in a great degree, the cost of traction is correspondingly decreased, and the delay and vexation arising from hot boxes almost wholly overcome.

By this method the weight is centralized and the friction is distributed over twice the surface used in the ordinary journal bearing, and the friction at any given point is correspondingly lightened. The usual collar at the end of the axle is dispensed with, avoiding a prolific source of friction and accidents. The improvement can be applied to any car without alteration of the truck or pedestal. It is equally applicable to steamship shafts, saving the heavy torsion which has resulted in the fracture of so many shafts of late, and its introduction would be the means of preventing a proportion of ship-wrecks. The universal joint could be substituted for the rigid bearing in all mill shafting, with useful results.

The common rigid bearing has a tendency to keep the train in a straight line, so that in running curves not only the journal is cramped and heated, but the flange of the wheel is jammed against the inside of the rail, by which action both are worn away rapidly, and the train is often thrown from the track. With the self-adjusting journal all of these difficulties are avoided, thus securing the desiderata of economy, speed and safety.

Mr. Baker's automatic lock for the axle box is dust tight, and closes and locks itself by its own weight.

Further particulars can be procured from the National Safety Car Bearing Company, No. 62 Cedar street, New York City, or from the patentee, Mr. J. R. Baker, No. 200 Third street, Jersey City, N. J.



by men having a thorough knowledge of machinery. Among them is their use on three leading American railways. Over ninety-thousand miles have been run by a car fitted up with the Joint, and it is still running in perfect running order, and without having had a hot bearing during the whole time.

The principle of Mr. Baker's perfect adjustable bearing for car-axes is that of the ball-and-socket joint, the same as that of the hip-joint in nature. A convex plate, which is a section of a perfect sphere, is cast upon the back or upper surface of the journal box, and a plate of a concave form, which is the exact converse of this, is attached by a "bayonet joint" to the upper

A PATENT has just been taken out in Washington for an invention which is designed to save time and trouble in preventing the blockade of street railway cars in case of fire or other obstructions. It is termed a "turn-table," and is constantly attached to each car. Through its operations the conductor can hoist the car when fully loaded with passengers, turn half around on the cross track in a few seconds, and so run to the next corner, repeating the operation wherever necessary until he returns to his own line beyond the point of blockade.

A pious Scotchman had thanksgivings offered in church for his safe return from "his long and perilous journey to that far-away place called London."

Richardson's Car-Coupling.

RICHARDSON'S Self Coupling for freight cars is a new invention issued Jan. 2, 1883, to do away with brakemen going between cars, and thus risking life or limb. The reasons which Mr. Richardson claims make his coupling superior to all others are as follows:

As the coupling has a large *bell mouth*, a link from an opposite car, even if a few inches higher or lower, will by striking anywhere inside the mouth slide into position and the pin drop, thus coupling itself.

It is all cast-iron, and is ready to be put together as soon as cast, thus putting the cost of the same at a very low figure.

It will couple with any link or pin now in common use.

It will not be necessary to change the car-frame, for it will fit any frame where a strap is used on the tail end without changing so much as a bolt. Mr. Richardson also has an attachment for uncoupling, which will be put on when desired without extra cost. Railroad companies will be allowed to thoroughly test this coupling before paying for it.

For further particulars and price address E. M. Richardson, Post-office box 108, Laco-nia, N. H.

Sargent's Apparatus for Converting Motion.

MR. THEOPHILUS SARGENT, of Hallowell, Maine, has been granted a patent on his apparatus for converting motion. The invention relates to the lever contrivance for producing rotary motion by means of a couple of toothed segments on the lever working loose pinions on the shaft, which alternately gear with it by ratchets and pawls, one going forward and turning the shaft, while the other is going backward to the starting-point; and consists of a stopping and reversing attachment. The new apparatus is a direct application of the lever power to a rotary motion, is simple in its principle and gear, and gives great speed and strength. It possesses the advantage of a stop and reverse gear, so effectually contrived that the reverse motion, which is communicated in a moment, is equal in force and rapidity to the forward motion. The same motion of the lever operates the stop and reverse gear as accomplishes the main purpose of the invention.

Sargent's apparatus for converting motion is intended particularly for being annexed to other powers, which, its inventor claims, can be increased five times by its use. It can be made strong as necessary for sixty or even as high as a hundred horse-power. The apparatus promises value as a hand-power applied to cars, side-wheel boats and other machinery of that nature. It fills a want long felt, and is likely to come into wide-spread use. Mr. Sargent is prepared to negotiate for its sale at a cheap price, and manufacturers and others interested, are invited to open a correspondence with him.

THE Postal Telegraph, which it is expected will be completed between this city and Chicago in a few days, will not, it is said, be opened to the public until all that is claimed for the system shall have been demonstrated.

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It Insures Safety from Fire in case of Accident, Economy in Fuel and RAPID CIRCULATION. It heats quickly, is SELF-REGULATING, and can be used for either STEAM OR HOT WATER.

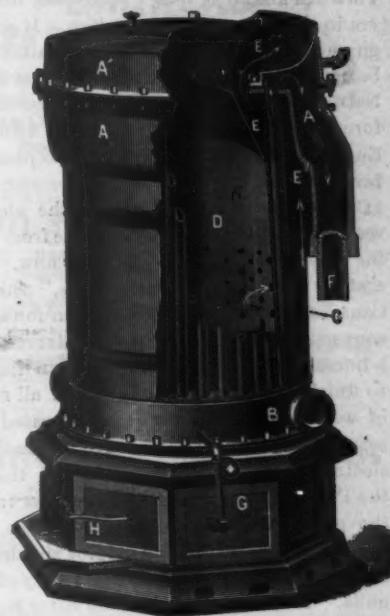
The Water Tubes do not come in contact with the Coals, but occupy the Smoke Flue in such a manner as to absorb the greatest amount of heat from Coal in a low State of combustion without danger of chilling the fire.

At the last "Mechanics' Fair" it received the Silver Medal, being the highest award to heaters of any kind.

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Address, Munn & Co., publishers of Scientific American, 261 Broadway, New York. Handbook about patents mailed free.

Electrical Railways in Ireland.

The making of the electrical railway between Portrush and the Giant's Causeway marks an era in the history of locomotion. If the sanguine hopes of its projectors are realized it will be not less remarkable in the history of Ireland. Nature has left her destitute of those stores of force in the shape of coal mines with which England and Scotland have been so plentifully favored; but she has dowered her with an inexhaustible supply of force in the shape of waterfalls, which have run to waste from before the days of Finn McCoul until now. "The costless drainage of a wilderness," which on Canadian rivers Mr. Hussey Vivian found busy converting, almost without the intervention of a human hand, beams of rough-hewn timber into finished doors and windows and all manner of wood-work, has never been harnessed to the service of man in Ireland. The advent of an electrical age promises to change all that, and the Portrush Railway may be the forerunner of the great things which are yet to come, when the Irish have learned to employ the drainage of their hills in driving the machinery of their mills. Turbines planted on the River Bush are to generate the electricity which is to drive the tram cars from Portrush to the Giant's Causeway. The directors, it is said, are seeking to purchase a waterfall for the same purpose, and it is confidently anticipated that the railway will be worked, as the city of Poona is said to be lighted, by thunderbolts forged by water.

There is something strangely incongruous in the association of the Giant's Causeway, with its mysterious legends, dating far back beyond the gray dawn of history, with the latest development of the applied science of the nineteenth century. That the first electrical tramway outside Berlin should have been started in a remote corner of Ireland is due to the enterprise of the High Sheriff of Antrim, Dr. Traill, whose namesake, Mr. W. A. Traill, has acted as engineer of the line. There have been many electrical railways laid down in various places, but hitherto they have never been constructed by public companies for the purposes of profit. As the Stockton and Darlington Railway is justly regarded as the first of modern railways, although it was preceded by many railways of different kinds, so this Portrush electrical line may fairly claim to be the first of its kind not only in Ireland but in the world. The first electrical locomotive was tried on the Edinburgh and Glasgow Railway forty years ago. It crawled along at a rate of four miles an hour, and was promptly laid aside. It was not till the invention of the modern dynamo-electric machine that the substitution of electricity for steam began to be regarded as feasible. Every one has seen the toy tram car in the grounds of the Crystal Palace driven by electricity, on which a curious public rides at 6d. per head per journey. Similar playthings have been at work at the various electrical exhibitions at St. Petersburg, Munich, Dusseldorf, Brussels, and Berlin. At the electrical exhibition in the Palais d'Industrie at Paris the principle was applied in more practical fashion. A tram car moved by electricity, transmitted from a stationary engine by an overhead cable, brought

loads of passengers to the palace from the Place de la Concorde. In a couple of months it conveyed 82,000 passengers to and from the exhibition; but as the fare for the short distance was at the rate of half a crown a mile it afforded no guide as to the commercial advantages of the new motor. An experiment was made on the Leytonstone tramway some months ago, when a tram car was fitted up with Faure accumulators and set to work over a mile and a half of private tramway. Its speed was seven miles an hour, but the weight of the car with the accumulators was five and a half tons, and although enthusiastic promoters declared that it would reduce the cost of traction by one-half the experiment has not been renewed.

A very successful application of the electric motor has been made by a large linen-bleacher in Calvados. The electric locomotive, which generates no smoke, passes up and down the bleaching-fields, winds up the bleached linen, and conveys it to the works. This, however, is a specialty entirely in private hands. The only public tramway worked by electricity is that of the Messrs. Siemens in Berlin. They at first projected an abomination in the shape of an overhead electric railway six miles long, but the Emperor would not allow the Linden to be disfigured, and the projectors contented themselves with a short line, a mile and a half long, between Lichtenfelde and the Military Academy. The new motor was also employed for a time on the tramway line between Charlottenburg and the Spandauer Bock. The current at first was passed along the rails from a stationary engine, but it is now conveyed by cables slung in mid-air, a frightful addition to the horrors of modern civilization. Although it can be driven at the rate of thirty miles an hour, the regulation pace is not more than ten. It is convenient, simple, and manageable, but it has not been a financial success. On the other side of the Atlantic Mr. Edison has made a private line, three and one-half miles long, to his works in Menlo Park. He sends the current along the rails, and claims to be able to drive his car at the rate of fifty miles an hour. He estimates the saving at fifty per cent upon the cost of steam; but Mr. Edison is an enthusiast, whose estimates do not always correspond with his results. He has, however, achieved a sufficient measure of success to secure orders for several electric motors, which are to be used on a new Swiss line. An electric railway is projected in Fairmount Park, Philadelphia, and there is some talk of putting up an overhead electric railway in Paris, to run from the Arc de l'Etoile at the head of the Champs Elysées to the Place de la Bastille at the other side of the city. These projects, however, are as yet nothing more than projects, and will probably not be carried into execution until it has been proved that electric tramways will pay.

The Portrush tramway is, however, an accomplished fact. It has been built in the old-fashioned way by a company of shareholders, who raised £45,000 in ten-pound shares, to construct six miles of rail. Being worked by electricity, there is no necessity either for the heavy railway needed to support the weight of a steam engine or for the granite-paved track required for horse traction. Another great ad-

vantage which cannot be secured elsewhere is that the tramway is laid on one side of the road, and from this raised trampath all ordinary traffic is excluded by a granite curbstone. The gauge is only three feet, and to twice that extent the company monopolize the highway. The cost of construction under these circumstances has only been one-quarter of that incurred on tramways less favorably situated. The steel rails are laid level with a graveled surface, and parallel to them extends a third iron rail, which is used to conduct the current from the dynamo machine to the cars, contact being effected by means of an electric brush. The whole of the electricity required is supplied from the central station at Portrush. When the turbines fail to yield the requisite power, steam will be employed to generate the electricity. The line will be used not merely as a tramway, but also as a railway for the conveyance of goods and minerals, electricity being in all cases the only motive power employed. According to the sanguine estimate of the promoters, whereas the cost of working the line by horses would be 11d. a mile and by steam 7d., they expect to effect it at a cost of 1d. If they do this their success is assured. But the chances are against them. No electric motor has as yet been able to earn a dividend, and it will be an agreeable surprise if the new railway to the Giant's Causeway should prove an exception to the rule.—*Pall Mall Gazette*.

Bonds Guaranteeing Fidelity.

The Fidelity and Casualty Company of New York, doing business at No. 179 Broadway, is the only company incorporated in the United States granting bonds on the fidelity of persons in positions of public and private trust. It has a cash capital of a quarter of a million of dollars, and has deposited one hundred thousand dollars with the New York Insurance Department. Proof of the confidence reposed in its security is found in the long list of railroads, banks, telegraph and express companies, insurance companies, etc., which have received and accepted its bonds. Many of these required their entire staff to give this company's bonds under contract with the company.

The Fidelity and Casualty Company grants bonds of suretyship for employés of railroads, banks, telegraph and express companies, or for officers of financial institutions, and others in positions of trust requiring security.

In becoming security for an employé, the company takes every precaution to ascertain his history and character, co-operating with the employer in retaining in his service only those whose conduct is such as to render them worthy of being placed in positions of trust.

The frequent difficulties encountered by administrators, receivers or guardians of estates, parties to suits having to furnish security for costs, etc., in obtaining two sureties to justify as to real and personal property before the courts, as previously required, are now entirely obviated.

Proposals are received and bonds issued without additional cost to the annual premium, and should the company after investigation decide adversely to an applicant, no charge is exacted.

Full particulars can be obtained at or from No. 179 Broadway, New York City.

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[Mention this paper.]

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The Locomotive Engineer.

BY H. C. LORD.

LOCOMOTIVE engineers may be faithfully described as a class by themselves, peculiar in their training, their methods of life, their courage, and in some rare instances their indifference to personal danger.

In the first place they are as a general rule, and always ought to be, good mechanics, educated to understand perfectly the intricate parts of an engine and the mutual dependence of each one upon all the others, just as all the functions of a human being are related and as the health of each one contributes to that of all. The link, the valve, the cylinder, the rod, the great boiler, the little key, the fire box, the steam chest and each part of the wonderful machine may properly be compared to the anatomy of a man, the blood representing the steam which drives the engine and the brain and will of the engineer, the intelligent power which regulates and controls its every movement, the engine but a useless mass of material without the directing knowledge and skill of the engineer.

The part of an engineer is one of danger even upon the best regulated railroad. The safety of the man depends no more upon his own skill and self-possession than upon that of his fellow engineers running their trains "both in the front and to the rear of him." He must have equal confidence in himself and in those who are at the same time relying on him. Then again he encounters every moment the treachery of iron, and it is the nature of iron to be treacherous. Human experience and skill have done and are still doing much to modify it, but it is yet an unlearned lesson and probably never will be learned. The conditions are too many and too various. An iron or steel rail, chilled or steel tire, and imperfect but apparently perfect rod, bolt or key may at any time put in imminent peril the life of the engineer. The engineer who is running against him may be less competent and intelligent. The intricate machinery of his own or his comrade's watch may have suddenly stopped or become uncertain in its movement and thus placed him in jeopardy. The cold of winter and the heat of summer change all the conditions of iron, whether it be the track, the various parts of the engine or rods, cords and braces which constitute a bridge, and to each one of these separate risks and contingencies the workmen upon the train and especially the engineer are exposed while the passenger is comparatively safe.

The engineer, like the pilot at the helm of a ship, is at the extreme point of responsibility and danger. His eye is always strained looking to the front, often through darkness and fog, and his ear is equally watchful for signals of danger from the rear, and whether the danger comes from ahead of him or from a broken rail, wheel or brake behind him, it becomes his supreme duty to stand by his throttle, to let on or shut off steam as in his judgment, made up in an instant of time, seems best, and when his own life is at stake, a moment when the very highest order of personal courage and self-possession is demanded. I have been a per-

sonal witness in many instances of the wonderful self-control of the class of men I am trying to describe, but as I have already promised, will not refer to any particular one, although I am satisfied that in one instance my own life was saved by the authority exercised over me, his superior officer, by an engineer in great emergency. He seemed all at once to exercise all the authority of a president, superintendent and board of directors, and yet his right hand never left the throttle and the engine crossed the bridge upon the cross-ties in safety. Its span was 160 feet, but at the time it seemed to me to be a mile in length.

Engineers, as a rule, are reticent men. During a trip they say but little even to their firemen, generally expressing their orders either by glance or a motion of the hand. All the while their whole attention is given to their peculiar and hazardous duties, the safety of their own lives, those of passengers, and the custody of property. When the train is in motion the eyes of the engineer are always on a strain, and he seems to feel and express through his whole frame the responsibility entrusted to and resting upon him, and the sense of responsibility never wavers until his destination is reached. Then with a look, and often an expression of relief, he drives his iron horse to his stall, grooms him and walks contentedly home. When his day's work is over you will generally find him either in his own house or at the "round house" talking to his comrades, comparing notes with them, directing his fireman and sometimes reading a newspaper. In an experience of twenty years I never saw a company of locomotive engineers engaged in personal altercation or even in angry discussion. Their business naturally inclines them to mutual friendliness, as their dangers are common and each one relies for his own safety upon the caution and skill of his fellow. Hence the origin of that already noble organization in this country, known as the "Brotherhood of Locomotive Engineers," a most worthy society, deserving of the greatest public support and confidence.

It is sometimes said that engineers become indifferent to danger, that this indifference is a natural result of their occupation; but this is by no means true of them as a class. There may be exceptions, but a man indifferent to danger becomes reckless and soon forfeits his place. A good mechanic, a skilled engine driver, like a good soldier, understands his danger, looks it in the face and enters upon the discharge of his duties with perfect intelligence, and therefore with true courage. He contracts to lead a certain life, with a full knowledge of its peculiar perils, and this is the highest order of courage, and the longer he lives upon the "foot-board" and deals with the terrific power of steam and becomes more aware of its uses and of the fearful responsibility resting upon him, the more thoughtful, patient, considerate and watchful he becomes.

In this connection, and not at all in the way of romance or sentiment, I will add that I was always glad to hear that an engineer was about to get married, and I take the liberty to advise every member of the "brotherhood" to take unto himself a wife as soon as possible, and

for many reasons. First, in getting a wife, if he don't happen to make a mistake in his choice, and engineers are not in the habit of making mistakes, he obtains a home, kept in order by willing hands and a loving heart, and always in readiness for him after his trip of trial and danger, where he is sure of wholesome food and that kind attention which is wonderfully restful and quiets the nerves which may have been unduly excited by a more than usually dangerous run. Then again, when he is standing at his post of duty and danger in the darkness and storm, and confronting the unknown perils of fog, bitter cold and treacherous iron, he will be all the more wary and watchful as he thinks of his home, his wife and his children who are thinking of him and praying for him as he bares his breast to the storm in the discharge of his duty for their sake and support. The greater his anxiety about his home, the more perfect his fidelity to his immediate trust and the more complete his self-possession. The sense of great responsibility is always the highest incentive to the exercise of the greatest skill, energy and watchfulness, and this is especially true of a locomotive engineer, and its exercise in the moment of anticipated danger is a tremendous strain upon his brain, his personal courage and his whole nervous system. He becomes accustomed more or less to these exciting risks and dangers, but the wear and tear upon his nervous energies can hardly be estimated, although in his own brave opinion he may be unconscious of it.

It is a serious question as to the number of years which an engineer can with safety to himself and his trust be permitted to run his engine, and one which the writer has studied with much care and anxiety. My conclusion is, that he ought not to do so more than from twelve to fourteen years. I am assuming an average time. Some strong men can withstand the strain for a while longer, others succumb at a shorter period. The trouble comes not with his brain, his will, or his skill, which latter only increases with his experience, but the perpetual jar and trembling of the engine acts directly upon the spinal cord, which, weakened and overstrained, produce nervous prostration, and nervous prostration means undue nervous excitement, and the latter, in the end, involves a loss of that energy and self-possession which are always essential to an engineer in his position of responsibility and danger. I am confirmed in this impression by the concurring opinion of an eminent physician, who has had a large and long experience in treating the peculiar nervous affections incident to the life of railroad employés.

THERE is a tradition handed down from time immemorial that a lady can never write a letter without a postscript. If the latter is inevitable, an Esterbrook pen No. 333 will answer the purpose admirably.

MAN, being essentially active, must find in activity his joy, as well as his beauty and glory; and labor, like everything else that is good, is its own reward.—Whipple.

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IMPORTANT ANNOUNCEMENT TO INVENTORS.

THAT department of the AMERICAN RAILROAD JOURNAL which contains descriptions of new inventions properly coming within its range of subjects, is regarded with great notice and favor, particularly by those directly interested in learning what the latest applications of mechanical ingenuity in railroading are, and by those who have produced inventions which they desire to make as widely known as possible.

The large and widespread circulation of this paper, its prestige as the oldest railroad journal in the world, and the weight attached to its contents by the general consent of leading railroad men in all countries, give such value to its carefully prepared descriptions of new machinery and appliances as cannot be found outside of its columns.

The interest manifested by inventors in supplying us with information of their doings, and the eagerness with which this is received, encourage us to give an increased attention to that department of this paper treating of new inventions.

We therefore repeat our invitation to all persons who have produced what they regard as improvements coming within the range of railroad operations, to communicate with us promptly regarding the same.

All matter sent us will be thoroughly examined and considered, and no inventions in our opinion likely to be practicable and useful will be passed over without receiving due attention from us.

List of Patents for Inventions Relating to Railways, Manufacturing, Mining, Street Cars, Machinery, Etc.

BEARING DATE OF JANUARY 30, 1883.

- 271,206. Car-Brake: William H. Adams, Boston, Mass.
- 271,207. Brake-Shoe: Hubert A. Banning, New York.
- 271,210. Draw-Bar for Cars: Henry Burkhardt, Chicago, Ill.
- 271,238. Oiling-Pump for Steam Engines: William Heston, Mount Union, Ohio.
- 271,245. Speed-Regulator: Horace F. Hodges, Chelsea, Mass.
- 271,255. Spark-Arrester: Henry Millholland, Philadelphia, Pa.
- 271,261. Watch-Tower and Signal-Lantern: Clair S. Parkhill, Hornellsville, N. Y.
- 271,268. Spike-Extractor: Albert P. Prou, Woodhaven, N. Y.
- 271,269. Draw-Bar: Thomas B. Purves and Thomas C. Craven, Greenbush, N. Y.
- 271,277. Car-Coupling: Alvah Rice, Rochester, N. Y., assignor of one-half to Stephen Wheeler, same place.
- 271,286. Car-Wheel: Samuel T. Wellman, Cleveland, Ohio.
- 271,287. Speed-Governor: Parker Wells, Lynn, Mass.
- 271,296. Railroad-Signal: Augustus H. Baker, Hartford, assignor of one-half to Henry L. Pinney, South Windsor, Conn.
- 271,300. Metallic Packing for Piston-Rods: Norman C. Bassett, Philadelphia, Pa.
- 271,315. Steam-Engine Governor: Warren H. Craig, Lawrence, Mass.
- 271,316. Vise: Daniel Davis, Elmira, N. Y.
- 271,327. Steam-Engine-Reserving Mechanism: John Frazier, Searcy, Ark.
- 271,329. Steam-Generator: Edward F. Gordon and Horatio Hobbs, Concord, N. H.
- 271,337. Car-Door: Amos B. King, Lake View, Ill.
- 271,343. Traction-Engine: Philologus H. Loud, Williamson, S. O.
- 271,348. Car-Signal: John A. Miller, Paducah, Ky.
- 271,352. Cut-Off-Valve Gear: Eugene O'Neil, San Francisco, Cal.
- 271,363. Cash Register and Indicator: James Ritty and John Birch, Dayton, assignor to Jacob H. Eckert, Cincinnati, Ohio.
- 271,368. Wood-Turning Lathe: Albion I. Sanborn, San Francisco, Cal.
- 271,373. Washer: Samuel H. Shively, Fremont, Ohio.
- 271,379. Car-Coupling: Columbus B. Tucker, Angerona, W. Va., and Josephus Tucker, Coolville, Ohio.
- 271,381. Brake-Rod for Cars: Matthew Van Tassel, Brooklyn, N. Y.
- 271,394. Car-Coupling: Nicholaus Ambuehl, Lone Grove, Fayette county, Ill.
- 271,400. Steam-Trap: Joseph H. Banks, New York.
- 271,414. Nut-Lock: Geo. Cade, Milan, Tenn., assignor of one-half to H. P. Miller, same place.
- 271,415. Car-Door Fastening: James B. Calkins, Pacific, Mo.
- 271,425. Elevated Railway: George W. Cook, Chicago, Ill.
- 271,431. Machine for Milling Links for Engines: William H. Denney, Lancaster, Pa.
- 271,435. Switch-Lock: Daniel P. Driscoll, Pittsburg, Pa., and Joseph H. Dugan, Dennison, Ohio.
- 271,459. Rotary Motor: Horace F. Hodges, Chelsea, Mass.
- 271,462. Lamp for Railway-Cars and other Purposes: James L. Howard and Charles P. Howard, Hartford, Conn., assignors to James L. Howard & Co., same place.
- 271,464. Traction-Engine: Edward Huber, Marion, Ohio. Derrick: Patrick Kelly, Poughkeepsie, N. Y.
- 271,477. Steam-Boiler: Frank F. Landis, Waynesborough, Pa.
- 271,478. Railway-Buffer Stop: Alfred Andrew Langley, 10 Kent Terrace, Clarence Gate, Regent's Park, county of Middlesex, England.
- 271,482. Method of Setting Steam-Boilers: Walter J. F. Liddell, Charlotte, N. C.
- 271,486. Railway-switch: Phillip Lyon, East Stroudsburg, Pa.
- 271,501. Car-Coupling: Benjamin F. Metz, Medway, Ohio, assignor to himself and John Kauffman, same place.
- 271,534. Switch and Signal Mechanism for Railways: Charles Stewart, Canfield, N. J.
- 271,544. Steam-Boiler: Henry H. Supler, Philadelphia, Pa.
- 271,543. Mail-Bag Catcher and Deliverer: Edward W. Thompson and Albert M. Moore, Lowell, Mass., assignors of one-third to James W. Bennett, same place.
- 271,547. Train-Order Signal: John S. Trites, Moncton, New Brunswick, Canada, assignor of one-half to Edwin Gillmor Russell, St. Paul, Minn.
- 271,553. Car-Coupling: William T. Van Dorn, Lincoln, Neb.
- 271,555. Rotary Engine: John C. Wands, St. Louis, Mo.
- 271,573. Railroad Chair and Joint: Thomas J. Christy, Olney, assignor to Francis M. G. Odall, Marion, Ill.
- 271,575. Feed-Water Heater: Horatio G. Eckstein, Philadelphia, Pa.
- 271,577. Valve-Gear for Steam-Engines: John Frazier, Searcy, Ark.
- 271,581. Signal for Cars and Vessels: Oliver C. Knipe, Norristown, Pa.

A Railroad Reporter's Account of a Wedding.

THE railroad reporter, with a map spread before him, was busily engaged in projecting, on his own responsibility, a line to connect the J., C. and I. and W., K. and N. roads, and to form an important feeder for both. While he was thus engrossed, the city editor wheeled around in his chair, hitched up his pink Italian suspenders, and said:

"Are you much of a ladies' man?"

"Yes I am," replied the railroad reporter, with a smile, "although I may not look it. At one time I was a regular standard gauge, steel rail, stone ballast swell, but of late years I have uncoupled from that sort of business, and have been running on a different line."

"Do you think you can handle a rechurchier affair among the 'high lifts' and do justice to the tout ensemble of the soiree?"

"I think I can."

"Well, if that is the case, go up to the residence of old Col. Jinglesex and report the wedding of his daughter. Pay strict attention to

the style of the bride's costume, and write up a readable description of it."

The railroad reporter rubbed up his eyeglasses, took his coffin-lid coat from the bottom of his escritoire, borrowed a fresh collar from the death editor, and went to the wedding. When he returned his report read as follows:

"Last night quite a large number of guests were present at the residence of Col. Jinglesex to witness the marriage of his lovely daughter with our esteemed young fellow-citizen Major Raoul Baptiste McGilligan. Col. Jinglesex was the general manager of the entire guest system, and had his headquarters established in the dining-room, and only left his post and the side-board, where the gentlemen were often side-tracked for repairs, to go through the parlors on a tour of inspection. Mrs. Col. Jinglesex acted as superintendent and yard-master, and most of the time was employed in the kitchen, where she had the supper courses made up and saw that they left on schedule time. The whole thing was a real ten-foot driver, Miller platform affair, and will long be remembered by those who were fortunate enough to receive invitations. A few moments before the arrival of the preacher who was to pull the bell-cord for the matrimonial train, old Col. Jinglesex left the side-board, and started up grade with a heavy load. The consequence was he slipped an eccentric, and came into the parlor running on one side, but was flagged down in time to prevent him jamming his headlight through a bay window. The old gentleman, in stopping to fill his tank so often, lost the right of way and did not witness the ceremony.

"The bride was a slender beauty, and her eyes were of a peculiar pea blossom blue color, and when her lips parted in a smile they looked like some one had opened a red pocket-book. She was dressed in a flowing robe of yellow tinted bobbinet muslin *a la ercu* looped up at the sides with a Hungarian pompadour of blue grenadine and fichus of Queen Anne gimp. The dress was cut on an incline of forty-eight degrees across the shoulders, and curved around under the left arm. The bosom of the fair bride was covered with a trestle work of Louis XIV. lace, and her waist was 'surfaced up' and 'filled in' with artificial flowers, made attractive by several narrow-gauge short lines of red trimmings, which skirted around and centered at a common terminal point on the crest of her polonaise. Down the front of the robe was a midland route of antique buff serge intersected by numerous feeders of costly fez marino."

"The wedding was bon ton—everything moved on schedule time, and along the whole line not a 'low joint' or 'high center' jolted the gentle glide of happiness."

RECENT weather upon the Atlantic reminds us of experiences in which books tumbled headlong upon their owner's head, as if despairing of getting their contents into it by any other method. Trunks and portmanteaus skipped about as though bewitched, and the saloon echoed with a "crockery chorus" worthy of Handel himself.

A NEW road is to be surveyed between Union City and Erie, Penn.